20031

RAMSEY

WIN!
Monthly Giveaways!
Visit ramseykits.com
See page 29.
No purchase required.

NEW KITS!

Tri-Field SCi-Fi Meter!
only $39.95
See Page 16

Super LED Strobe Light!
only $39.95
See Page 16

Wireless Data Modules!
only $39.95
See Page 35

Dripping Faucet!
only $9.95
See Page 34

SAVE! HOBBY KIT SUPER SALE!

Doppler Direction Finder
Save Up To $40!
See Page 40

RF Linear Power Amplifier
Save Up To $20!
See Page 8

"Cube" Video Transmitters!
Save Up To $30!
See Page 15

Speech Scrambler!
Save Up To $20!
See Page 23

Rat Blaster!
Save $10!
See Page 24

Ion Generator!
Save $10!
See Page 20

RAMSEY
In our 31st Year!

AM/FM SUPER SALE!

FM100B
Save Up To $30!
See Page 6

FM10A
Save $5!
See Page 7

PA100
Save $50!
See Page 6

AM25
Save $10!
See Page 7

AM1
Save $5!
See Page 7

FM25B
Save $20!
See Page 7

NEW! ADVANCED LEARNING LABS!

130 In One!
300 In One!
500 In One!
Starting on Page 30

Teach Your Kids Electronics... THE FUN WAY!

KITS ARE FUN!

- Build It!
- Learn It!
- Achieve It!
- Enjoy It!

1-800-446-2295 **ramseykits.com**

We Make It Easy To Do Business...

✔ *24 hours, 7 days a week on the web, visit www.ramseykits.com and order via our secure server*
✔ *Call our order desk at 800-446-2295 and speak to a friendly, knowledgeable salesperson!*

VISA MasterCard DISCOVER AMERICAN EXPRESS

Terms & Conditions

Payment – Check, money order, and credit card (MC, VISA, American Express, Discover) are all accepted. If paying by credit card, please include the full card number and the expiration date. If you are paying by credit card, you must provide the billing address for your credit card (even if we are shipping to an alternate address).

Sales Tax – NY and VA residents must add appropriate sales tax unless a signed resale certificate accompanies your order.

Prices – Prices shown are those in effect at the time of publication. We work to hold prices firm, however prices are subject to change without notice. Current prices will prevail at the time an order is placed. Visit **www.ramseykits.com** for any last minute updates!

Shipping –

Continental U.S. customers – We normally ship via Parcel post or UPS depending on the size and value of the order. If we are shipping via UPS you must provide a physical address, as UPS will not deliver to P.O. Boxes. Add $6.95 for shipping, handling, and insurance on all orders. Express and air shipments are extra and priced at cost. COD is an additional $6.50.

Alaska, Hawaii, and Puerto Rico – Specify USPS First class, UPS 2nd day, or UPS overnight only. The amount will be added to your order.

Canadian customers – Make checks payable in U.S. funds or use a credit card. Add 20% to the cost of your order for shipping to a maximum of $50.00 for parcel post shipment. If you request UPS for delivery, we will confirm the amount to you prior to shipment. **These charges do NOT include any international duty charges.** Be aware, UPS shipments may be delayed in customs.

Overseas customers – We will determine the best method and cost for your location, and will confirm to you before shipment.

Returns – Examine (do not build) any kit for up to 10 days. If not completely satisfied, return in the original packaging for a full refund. Kits that are partially built cannot be returned. Wired and tested items can be returned if in their original packaging, suitable for resale.

Design Changes – From time to time we make design changes. Some items may differ slightly from photographs and descriptions in the catalog. You can be sure that such changes are made in the interest of better performance or appearance. In addition, with the fluctuating pricing changes of some electronic components, pricing is subject to change.

Manual Preview – Looking at a kit and want to review it more closely? Our manual preview policy lets you purchase most of our manuals for $5.00 (a few are more). Purchase price of the manual will be credited against your future associated kit purchase. You can also download most manuals (excluding the schematic!) at no charge from our website at **www.ramseykits.com**.

Technical Support

Our support staff is here to answer technical questions that arise as you build or use your kit. E-mail us at: tech@ramseymail.com. We promise we will get back to you promptly! If you're really stuck, call our tech support line at 585-924-4560. Sorry, we cannot support or discuss product applications. Visit our ***User's Bulletin Board*** at **www.ramseykits.com** if you have applications questions, or wish to post your experiences with Ramsey hobby equipment.

Mailing Address

RAMSEY ELECTRONICS, INC.
793 Canning Parkway
Victor, NY 14564 USA
800-446-2295 *Toll Free Order Desk*
585-924-4560 *Technical Support, Accounting, Etc.*
585-924-4886 *Fax*
sales@ramseymail.com

NEW! RAMSEY SURPLUS!

If you're looking for some really great deals, some hard-to-find parts, or pretty much anything, check out Ramsey Surplus! From out of date parts, product liquidations, blow-outs, and special purchases, you'll find it there!

www.ramseysurplus.com

AM-FM Broadcasters	4-9
Cameras & Transmitters	10-15
Hobby Kits	16-33
Mini-Kits	34-35
Antennas	36
Amateur Radio Gear	37-40
Test Equipment	41-46
Tools & Accessories	47

SUPER HOBBY SALE Expires 6/30/03

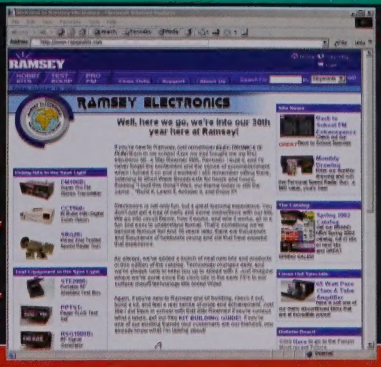
LOOK FOR SAVINGS!

AM/FM SUPER SALE! Expires 6/30/03

WIN!
Register to win monthly giveaways!
See Page 29 for details

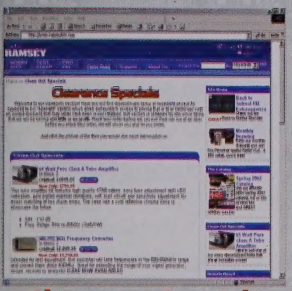
If You Liked Thumbing Through This Catalog...

You Won't Believe The Special Deals And Really Neat Stuff At

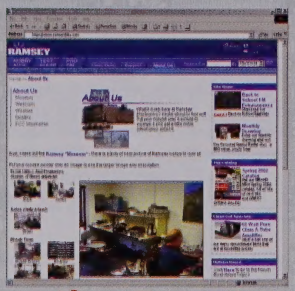


www.ramseykits.com

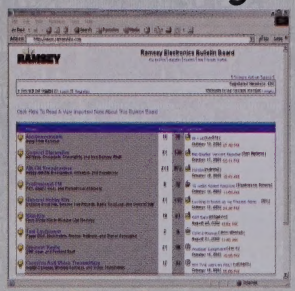
MORE Than Just Friendly Ordering On-Line...



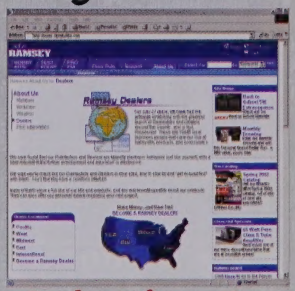
Clearance Specials
Save BIG BUCKS!



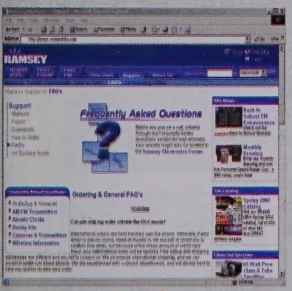
About Ramsey!
Learn MORE Than You Want!



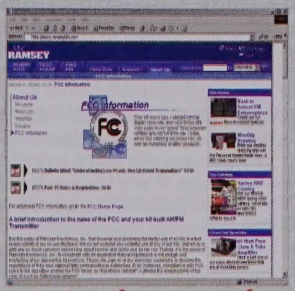
User Forum!
YOU Are The Author There!!



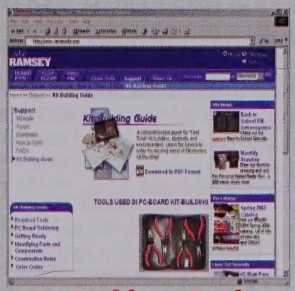
Dealer Information
Find a Dealer Near YOU!



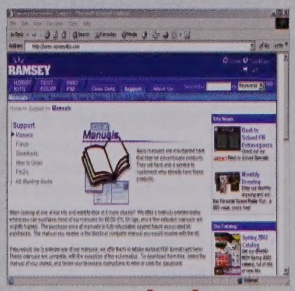
FAQ's
All The Answers You Need!!



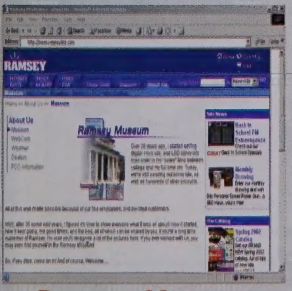
FCC Reference Info
Operational Guidelines!



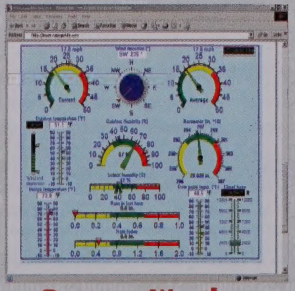
Kit Building Guides
How To Build A Kit!



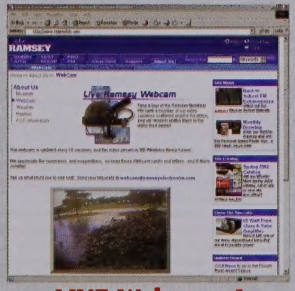
Downloads!
Kit Manuals, Software...More!



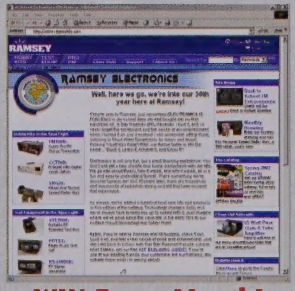
Ramsey Museum
The History of US! Yikes!



Ramsey Weather
Our Local Weather Display!



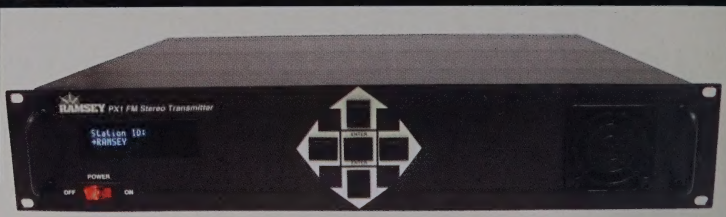
LIVE Webcams!
Watch Us LIVE 24/7!



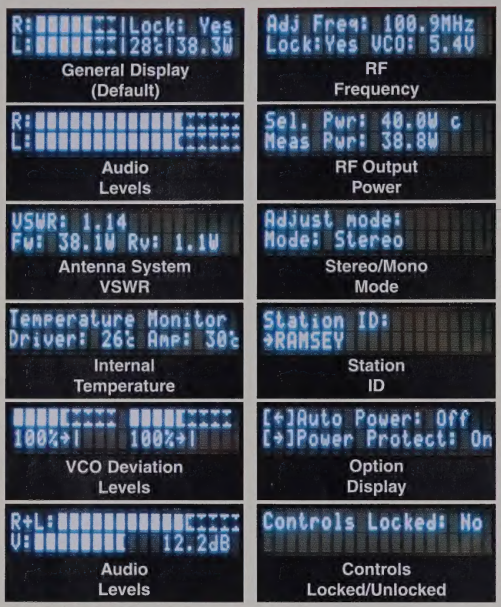
WIN Every Month!
Register To WIN!

Professional 35W FM Stereo Transmitter

- ✔ 35W output, temperature and VSWR protected
- ✔ Automatic audio & power controls
- ✔ Digitally synthesized PLL for rock solid frequency stability
- ✔ Digital display of all parameters
- ✔ Automatic battery back-up switch
- ✔ 110/220 VAC, 12 VDC operation



35 Watts, Frequency Agile... In Two Rack Units!



USE IT ANYWHERE IN THE WORLD

We designed the PX1 to be the gold standard in transmitters intended for worldwide service. Whether your power main is 110, 220 VAC, or 12 VDC, the PX1 can handle it. Our battery back-up option is ideal for remote areas with questionable power; a standard automobile battery is seamlessly switched in when regular power is lost - your listeners will never miss a beat! Automatic VSWR protection ensures maximum power into any antenna situation that may develop such as ice or wind damaged elements; conditions that would shut competitive transmitters down.

CONTINUOUSLY CHECKS YOUR SYSTEM

PX1 circuitry makes subtle adjustments to various circuit parameters depending upon frequency, temperature, power, audio level, and deviation - in short, it's like having a station engineer constantly monitoring and adjusting on-the-fly! An 8 times oversampled stereo generator with true analog filters throughout assures a clean, refreshing sound image while the RF transmitter chain employs generously rated components for headache-free, long life. The PX1 can also be used as a stand-alone exciter for higher power installations.

EASY INSTALLATION, QUICK SETUP, SIMPLE CONNECTIONS!

Installation of the PX1 is a breeze. A standard Type-N connection is provided for RF Output. Balanced (XLR) left and right audio inputs are provided to properly interface with any source you have. In addition, BNC SCA/Digital inputs are provided along with a quick disconnect connector for a 12 VDC standby/back-up power input. In short, connect your audio sources and antenna, power it up, set frequency and power, and you're on the air! It doesn't get any simpler! All of this in a compact 3.5" standard 2 rack unit case.

FULL FRONT PANEL MONITORING

Operation of the PX1 is simple and intuitive via the front panel switch matrix. All functions, controls, and status are displayed on the 2 line by 20 character vacuum fluorescent display.

EXTREMELY VERSATILE, FOR ANY APPLICATION!

Although specifically designed for Domestic LPFM and International stand-alone stations, the PX1's compact size and 12VDC operation make it ideal for a backup transmitter at a commercial station, or as a low power translator station.

SPECIFICATIONS

Frequency Range:	87.5 to 108.1 MHz
Power:	110/220 VAC, 50/60 Hz; 12VDC@7.0A for rated output
Broadcast Modes:	Stereo/Mono + SCA and Digital RDS Inputs.
Bandwidth:	±75 kHz when properly adjusted, auto adjust feature prevents overmodulation.
Separation:	Better than 50 dB (typical 60–70 dB).
CrossTalk:	Better than 50 dB.
Asynchronous:	Better than 60 dB.
THD:	Better than 0.3% with processing.
Audio Inputs:	Standard Balanced Inputs +4 dBu/1.228V rms/3.47 V p-p; -10 to +10 dBm range
Audio Input Impedance:	22K Ohms
SCA and Digital Inputs:	BNC (50 Ohms).
RF Output:	35W Continuous (Max.) into a 50 ohm load. Fully adjustable from 10 watts to full power
Harmonic Supression:	Better than -81 dBc
Display:	2 lines x 20 characters vacuum fluorescent display.
Controls:	5 navigation controls (Up, Down, Left, Right, Enter).
Cooling:	High CFM Fan, front intake, rear exhaust.
Over-power Protection:	Continuously checks for proper power output to within 5%.
VSWR Protection:	Continuous VSWR monitoring with auto level control.
Over-temperature Protection:	Auto over-temperature control, 75°C max. fixed.
Overmodulation Protection:	Auto control of audio modulation levels, on/off.
Audio Frequency Range:	20 Hz to 16 kHz ±1 dB. Steep "brick wall" 16 kHz low phase shift, low pass filter, down 68 dB @ 19 kHz and above.
Adjustments:	Audio input levels, Modulation Level, Power Level, Frequency (in 100 kHz steps), Stereo/Mono mode, Auto Adjust Modulation mode (On/Off).
Dimensions:	Standard 2-unit rack-mount case, 19" wide, 14.25" deep, 3.5" high.

The PX1 is FCC Part 73 Verified. (Note: The end user is responsible for complying with all FCC rules & regulations within the US, or any regulations of their respective governing body). All specifications are subject to change.

PX1 Professional 35 Watt Synthesized FM Stereo Transmitter **$1795.00**

Get On The Road...And On-Air *TODAY!*

Go Live! Go Remote!

Everything you need to get "On The Air From Anywhere!"

35 Watt Complete FM Stereo Radio Station

- ✔ 35 watt FM stereo transmitter
- ✔ Integrated CD player
- ✔ Integrated cassette player
- ✔ Integrated audio mixer
- ✔ Professional microphone and cables
- ✔ Omnidirectional antenna and coax
- ✔ Installed and prewired in a high impact road case!

One of the most requested FM broadcast products over the past year has been a "radio station in a box". At first we laughed. What did they mean... in a box? Then as the requests came pouring in, we found out! Overseas customers, as well as some of the new LPFM licensees have a need to quickly "get on the air" at temporary locations or in the interim to their installed studio/transmitter setup. A number of overseas customers also had to originate short term programming from various remote origination sites for disaster preparedness broadcasts! Well, here you go... a radio station in a box!

First we took our state of the art PX1 FM Stereo Transmitter and installed it in an impact resistant, rack mount travel case. Then we added the Superscope PAC750 integrated mixer/cassette deck/CD deck. We prewired them, then added a professional microphone and some cables. Finally, we included our 3.4 dB gain omnidirectional FM Broadcast antenna with 100 feet of matching low loss coaxial cable. There you go, a complete radio station, ready to plug in, and be on the air!

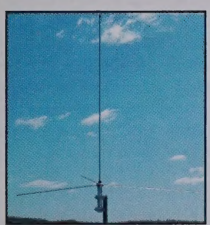
Just imagine: Show up, open up the case, plug in the AC power, temporarily mount the antenna, connect the coax, and you're all set! The applications are endless! From live remotes to station backup transmitters, our "Station In A Box" is your solution! *(Note: The end user is responsible for complying with all FCC rules & regulations within the US, or any regulations of their respective governing body).*

PX1 FM STEREO TRANSMITTER

Complete 35 Watt Synthesized FM Stereo transmitter. See page 4 for full details and specifications.

PAC750 INTEGRATED AUDIO SYSTEM

A complete, integrated, professional audio system. Includes an input audio mixer, cassette deck, CD player, with full audio and cueing controls.



FMA200 OMNIDIRECTIONAL VERTICAL ANTENNA

This 5/8 Wave omnidirectional antenna gives you 3.4 dB gain over a unity gain antenna. That's more than twice the effective radiated power. That will give you the maximum punch from your temporary location. Quick, on-the-spot assembly specifically for your operating frequency. Easy to mount on any mast, tower, or building. Some customers have even mounted them on the roof of their van, and have operated the station from inside the van!

We include 100 feet of low loss LMR-400 coaxial cable, with connectors pre-installed to get you on the air quick. For complete details on this and other FM broadcast antennas see page 9.

PROFESSIONAL MICROPHONE, STAND, AND CABLES

Professional handheld dynamic microphone, 25' professional XLR microphone cable, and a matching desk stand.

ALL INSTALLED AND PREWIRED IN A HIGH IMPACT RACK MOUNTED ROAD CASE!!!

PXB35 **Professional 35 Watt Radio Station In A Box** **$3,795.00**

Super-Pro Synthesized FM Stereo Radio Station

- ✔ All new design for 2002! Better than ever!
- ✔ Built-in mixer - 2 line inputs and one microphone input, line level monitor output
- ✔ Precision active low-pass "brick wall" audio filter
- ✔ Clean, filtered RF output suitable for RF amplification
- ✔ Frequency range 88.0 to 108.0 MHz, 100 KHz steps

KIT
Wired & Tested

AM/FM SUPER SALE! Expires 6/30/03

Our FM100B is the updated version of a truly professional frequency synthesized radio transmitter station in one durable, handsome cabinet. It is used all over the world by serious hobbyists as well as churches, drive-in theaters, and schools. No one else offers all of these features at this price! The included frequency display and audio level meters assist in easy operation. The "B" version now includes some additional functionality including a line level monitor output, improved stereo separation, spectral purity, audio clarity, and adjustable RF Output.

Sound quality is impressive, and equal to or better than most commercial stations. Low pass input filtering plus peak limiters put maximum "punch" in your audio, and prevent overmodulation distortion. Churches, drive-ins, schools and colleges find the FM100B to be the answer to their transmitting needs... you will too. The kit includes a sharp looking metal cabinet, whip antenna, and built-in 110/220 volt AC power supply. An external antenna connection allows hook-up to high performance antennas like our vertical and colinear models on page 9. We also offer a high power export version of the FM100B that's fully assembled with one watt of RF power, for miles of program coverage. Many islands and villages use it as their local radio station! The export version can only be shipped outside the USA, or within the US if accompanied by a signed statement that the unit will be exported. One watt units at full power cannot be used with the telescoping whip antenna and MUST be utilized with an external antenna to maintain proper VSWR. *(Note: The end user is responsible for complying with all FCC rules & regulations within the US, or any regulations of their respective governing body).*

FM100B	**Super-Pro FM Stereo Radio Station Kit, 5uW to 25 mW Output**	**$259.95** ~~$269.95~~
FM100BEX	**Super-Pro High Power (Export ONLY) Kit, 5uW to 1W Output**	**$329.95** ~~$349.95~~
FM100BWT	**Factory Wired & Tested FM100BEX, .5uW to 1 Watt Output**	**$399.95** ~~$429.95~~

NEW!

Professional 40 Watt FM Power Amplifier

AM/FM SUPER SALE! Expires 6/30/03

Ultra-Reliable for Continuous Duty Operation!

Wired & Tested

- ✔ Frequency range 87.5 to 108 MHz
- ✔ Variable 1 to 40 watts output
- ✔ Selectable 1 watt or 5 watt drive
- ✔ Microprocessor controlled overdrive, VSWR, and over-temperature protection
- ✔ Harmonics meet or exceed FCC specifications for licensed transmitters!

SPECIFICATIONS	
RF Power Output:	1W - 40W, continuous duty
Input Power:	Selectable 1W or 5W
Frequency Range:	87.5 MHz - 108.1 MHz
VSWR Protection:	Automatic VSWR protection
Temp. Protection:	Automatic over-temp protection
Over-Drive Protection:	Automatic over-drive protection
Display:	Multifunction LED, Power Output, VSWR, Input Power, Temperature, Fault
Controls:	Power On/Off, Output Power Adjust, Display Select
Input Connection:	BNC
Output Connection:	Type-N
Cooling:	Forced air
Power:	110-120 VAC or 220-240 VAC, 50/60 Hz
Case:	9.55"W x 3.65"H x 12.54"D
Weight:	8 Lbs

At last, the number one requested new product is here! You asked for a professional quality FM power amplifier with 30-40 watts output that has variable drive capabilities. You asked for continuous duty operation, with proper automatic protection circuits. And finally, you asked for totally variable output power in line with your FCC, DOC, or ERP requirements. Introducing the PA100 from Ramsey, the name known for professional quality FM transmitter products.

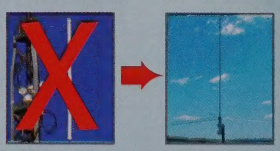
If you are one of the thousands of export users of our famous FM100EX and FM100WT Super Pro Stations (or new B series above) you'll love the PA100. With the mere one watt drive from these units you can boost your output up to 40 watts! And this is continuously variable throughout the full range! If you are currently using another FM transmitter that provides more than one watt output, no problem! The drive input is selectable for one or five watts to achieve the full rated output!

Features a multifunction LED display to show you output power, input drive, VSWR, temperature and fault conditions. The built-in microprocessor provides AUTOMATIC protection for VSWR, over-drive, and over-temperature. The built-in fan provides a cool 24/7 continuous duty cycle to keep your station on the air! Using our FMA200 antenna? Order one of our convenient preassembled low loss cable kits on page 9 to get you on the air quick! *(Note: The end user is responsible for complying with all FCC rules & regulations within the US, or any regulations of their respective governing body).*

PA100	**40 Watt FM Power Amplifier, Factory Assembled & Tested**	**$549.95** ~~$599.95~~

DON'T FORGET YOUR POWER OUTPUT!

If you've been using an FM100WT with our TM100 antenna, and you boost the output with one of our PA100's, you can no longer use the TM100 antenna! Check out the FMA200 on Page 9



Synthesized FM Stereo Transmitter

KIT

- ✔ Synthesized 88 to 108 MHz for no frequency drift!
- ✔ New design features 'Line In' and 'Loop Out' 1/8" Stereo jacks!
- ✔ 'F' style RF output external antenna connector

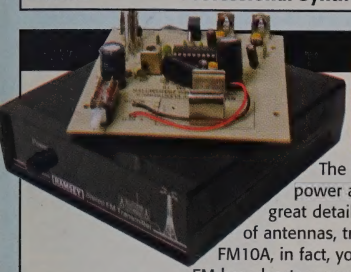
New Design!

Need professional quality features but can't justify the cost of a commercial FM exciter? The FM25B is the answer! A cut above the rest, the FM25B features a PIC microprocessor for easy frequency programming without the need for look-up tables or complicated formulas! The transmit frequency is easily set using DIP switches, no need for tuning coils or "tweaking" to work with today's 'digital' receivers. Frequency drift is a thing of the past with PLL control making your signal rock solid all the time - just like commercial stations. The FM25B's real claim to fame however is the use of the latest cutting edge stereo generator to hit the market. The audio quality is excellent with amazingly good stereo separation to keep even the pickiest audiophiles happy! Connections couldn't be any easier; use the provided cable to interface with the line output of any CD player, tape deck, computer, or mike mixer. Just plug it in and you're on the air! Kit comes complete with case set, whip antenna, 120 VAC power adapter, 1/8" Stereo to RCA patch cable, and easy assembly instructions - you'll be on the air in just an evening! Case size 5"w x 1½"h x 5¼"d.

FM25B	**Professional Synthesized FM Stereo Transmitter Kit, adjustable 5 uW to 25 mW Output**	**$119.95** ~~$139.95~~

Tunable FM Stereo Transmitter

KIT



AM/FM SUPER SALE! Expires 6/30/03

Learn FM Basics!

- ✔ Tunable anywhere in standard FM band... 88 to 108 MHz
- ✔ Operates on 5 to 15 VDC
- ✔ Standard line level inputs with RCA phono jacks
- ✔ Settable pre-emphasis 50 or 75 µSec for use anywhere in the world
- ✔ Adjustable input sensitivity
- ✔ Easy to build, low cost transmitter

The FM10A has plenty of power and our manual goes into great detail outlining all the aspects of antennas, transmitting range and the FCC rules and regulations. You'll be amazed at the exceptional audio quality of the FM10A, in fact, your station will sound better than most others on the dial! This is because in their quest for ever higher ratings, FM broadcasters crank up the average level of their modulating signal in order to sound 'louder'. This produces a noticeably more muddy and constrained sound than your signal. Runs on internal 9V battery, external power from 5 to 15 VDC, or an optional 120 VAC adapter is also available. Don't forget to add our matching case set and antenna for a nice finished look. Optional case size 5"W x 1½"H x 5¼"D

FM10A	**FM Stereo Transmitter Kit**	**$34.95** ~~$39.95~~
CFM	**Matching Case & Knob Set**	**$14.95**
FMAC	**110 VAC Power Supply for FM10A**	**$9.95**

Professional Synthesized AM Transmitter

KIT

- ✔ Fully synthesized, no frequency drift!
- ✔ Ideal for schools
- ✔ Microprocessor controlled
- ✔ Strappable for higher power output where regulations permit
- ✔ Includes AC power adapter and case set

Be As Stable As A Rock!

Run your own radio station! The AM25 operates anywhere within the standard AM broadcast band, and is easily set to any clear channel in your area. The design is similar to that of a commercial radio transmitter, so you'll learn how the "big guys" operate. It is widely used by schools - standard output is 100 mW, with range up to ¼ mile, but is jumper settable for higher output where regulations allow. Broadcast frequency is easily set with dip-switches and is stable without drifting. The transmitter accepts line level input from CD players, tape decks, etc.

AM25	**Professional AM Synthesized AM Transmitter Kit, Matching Case, Knob Set, and AC Power Supply**	**$89.95** ~~$99.95~~

Tunable AM Radio Transmitter

KIT

AM/FM SUPER SALE! Expires 6/30/03

#1 Scouting Project For Years

- ✔ Tunes entire 550 to 1600 KHz AM band
- ✔ Operates on 9 to 12 VDC
- ✔ Standard line level input with RCA phono jack
- ✔ 100 mW output. Range up to ¼ mile under optimum conditions

The AM1 is a great first kit, and a fine low power AM broadcaster for the hobbyist on a budget. It's a great way to learn the basics of AM broadcast technology, not to mention basic soldering and component identification (if you're a beginner!) The transmitter can be tuned to broadcast anywhere in the AM band (550 to 1600 kHz). Setting frequency is simple - tune a nearby AM radio to the desired frequency, then adjust the AM1 coil to match the radio. With 100 mW of output power, range can be up to ¼ mile. The AM1 has been used by Scout camps, churches, schools, and other organizations to provide easy and low cost communications.

AM1	**AM Radio Transmitter Kit**	**$29.95** ~~$34.95~~
CAM	**Matching Case & Knob Set for the AM1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

Stereo Transmitter Companion

Wired & Tested KIT

- ✔ Make your radio station sound like the pros... compares with units costing $500 to $700!
- ✔ Limiter/processor for that high density modulation 'punch'
- ✔ 3 band audio processor - separate controls for Bass, Presence, and Brilliance
- ✔ Handy peak limiter LED allows easy modulation setting
- ✔ Brick-wall low pass filter really cleans up squeaks and squawks from CD player inputs

Your station's image and degree of professionalism is defined by its sound quality. While we can't make your jokes or witty announcing skills any better we can at least make the technical quality the best it can be! The STC1 connects easily between your CD player, mike mixer, or tape deck and the Radio Transmitter (FM10A, FM25 or AM25). Simply listen to the over-the-air quality and set the controls for best sound. If you like programming Rock music, crank up the Bass and Brilliance controls for some 'sock-em' sound, Classical and vocal tunes come alive with a sweetening of the Presence control, monologues, commentaries and talk radio are benefited by Bass and Presence. Set the levels so that the Peak LED flickers a bit and you're assured of perfect modulation without splatter or distortion! Low cost CD players that have poor filtering on the output are really cleaned up by the switched-capacitor low pass filtering in the STC1. Higher order harmonics and clock feed-through that causes annoying heterodynes and whooshing noises disappear. Operates on 9 to 15 volts DC. Take the next step toward professionalism with the STC1, available fully wired and tested or in money saving kit form.

STC1	**Stereo Transmitter Companion Kit**	**$59.95**
CSTC	**Matching Case & Knob Set**	**$14.95**
STC1WT	**Factory Assembled and Tested STC1 with Matching Case**	**$119.95**
AC125	**110VAC Power Adapter**	**$9.95**

FM Low Pass Filter

Wired & Tested KIT

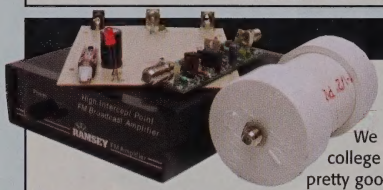
"Clean Up" your FM Broadcasts!

The FM Low Pass Filter kit came about while designing the PX1, Professional FM Broadcaster. The FCC Ruling 99–25 created a class of radio stations designed to serve localized communities by authorizing new classes of non-commercial low power FM radio services (LPFM). In order to meet the stringent guidelines of the FCC, the PX1 underwent months of design sessions and many hours of painstaking tests. One of the secrets to its clean output is the FMLP1. If you own one of those spectrally dirty "import" exciters you'll definitely want to add the FMLP1 to clean up the output and properly match your power amplifier. Maximum input power 50 watts. The kit utilizes surface mount chip caps, so you'll need ultra fine solder and a magnifying lamp.

FMLP1	**FM Low Pass Filter Kit**	**$29.95**
FMLP1WT	**FM Low Pass Filter, Factory Assembled & Tested**	**$49.95**

High Intercept Point FM Broadcast Amplifier

KIT



Amplify BEFORE the line loss!

- ✔ Virtually overload proof
- ✔ Mast mount for best signal to noise ratio and performance
- ✔ Also works great for low power FM transmitters
- ✔ Put your power at the antenna not in the feedline
- ✔ Very well filtered with 5 sections of low pass filtering

We developed this unit to try and receive a small college station about 35 miles away. Sure, we had a pretty good omni directional FM antenna on the roof, but we also had a big 50KW local AM station about 3 miles away! Any preamp we tried simply overloaded and replicated the strong station all over the band. Our solution was to take our popular broadband LPA1 one watt (!!) amplifier, add lots of low pass filtering and selectivity for the FM band, and put it in a nice weatherproof housing. To make things even easier, we added a power insertion box to feed the DC power up the same coax as the signal! Wow, did it do a job! Then - as an experiment - we tried using it to boost one of our FM transmitters, cool! We couldn't believe the increase in transmission range, and the lowpass filtering made us feel pretty good about not futzing up anyone else's reception! Naturally, this is a no-no in the USA, but great for the export markets.

FMBA1	**High Intercept Point FM Amplifier Kit**	**$69.95**
CFMBA	**Matching Case & Knob Set for FMBA1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

RF Linear Power Amplifier

Wired & Tested KIT

Broadband signal boost from 300 KHz to 1 GHz with up to 1 watt of power

The LPA1 is the ticket for boosting power up to 1 watt over a frequency range of 300 KHz to over 1000 MHz! Although intended for use as a lab amplifier, many users in foreign countries use the LPA1 to boost their Ramsey FM stereo transmitters to a watt of power capable of providing radio service through an entire town. Power required is 12 to 15 volts DC at 250mA via 2.1mm male power jack. Gain of 38dB at 10 MHz, 10 dB at 1000 MHz. For a neat, professionally finished look, add the optional matching case set. Optional case size 5"W x 1½"H x 5¼"D.

LPA1	**RF Linear Power Amplifier**	**$39.95**	~~$49.95~~
CLPA	**Matching Case & Knob Set for LPA1**		**$14.95**
LPA1WT	**RF Linear Power Amplifier, Factory Assembled & Tested**	**$109.95**	~~$119.95~~
AC125	**110VAC Power Adapter**		**$9.95**

FM Broadcast Antennas

The secret to maximum performance, and great range!

WHAT'S MORE IMPORTANT THAN YOUR ANTENNA? Antenna height and antenna match are the two easiest things you can do to increase your reception range. The old adage, "If you want more signal, put your money in an antenna rather than power" is certainly true. We feature quite a selection of top quality antennas to fill the bill for any enthusiast's needs - from the hobbyist to the commercial broadcaster serving thousands.

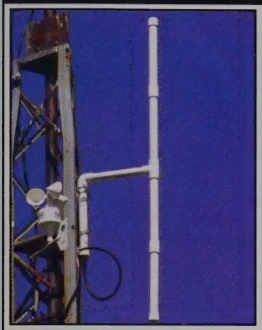
"The 3 most important factors in your broadcast system: Antenna, Antenna, and Antenna!"

The most efficient...and least expensive way to increase your range and signal quality!

For complete specs, visit us at www.ramseykits.com

KIT

Tru-Match FM Antenna



Rugged PVC construction... Keeps the weather out!

- ✔ Fully weatherproof - rugged pvc construction
- ✔ Matches 50 or 75 ohm systems
- ✔ Tunable for perfect match over the entire 88 to 108 MHz FM band

We've been besieged with calls asking us where to get a good quality FM Broadcast antenna. Remember, matching your antenna to your transmitter is the single most important link in your transmitter setup - and a good antenna and match are the secret to getting maximum range.

When we say "match" we mean electrical impedance match... if the proper impedances are not maintained between transmitter and antenna, power is reflected away from the antenna and back into the transmitter! This can cause the final amplifier stage to be damaged, not to mention spurious signals and lousy range. Buy this kit and get the most from your FM Broadcaster!

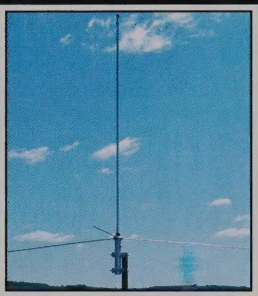
TM100	**FM Broadcast Low Power Antenna Kit (25 W Max)**	**$69.95**

5/8 Wave Colinear Vertical FM Antenna

KIT

- ✔ 5/8 wave for excellent gain and maximum range
- ✔ Field adjustable for a perfect match
- ✔ 3.4 dB gain effectively doubles your power!

Precision tune to your exact frequency for a perfect VSWR!



This is probably the most popular antenna we sell. Why? Let's start with the proven omnidirectional ground plane design, clean rugged construction, and how about easy mounting? The 5/8 wave design keeps your signal low to the horizon and not uselessly radiating up into space - great if your listeners are on the space shuttle, but the pits for the folks out at the edge of town! Imagine a donut shaped pattern of signal radiating from your antenna. For the most range out to the horizon, we need to "squish" that pattern flatter to squeeze more signal out to the horizon - and that's what this antenna does. Super easy to assemble and mounts to any common antenna mast. Has the common SO-239 style connector available anywhere and looks that just can't be beat. Try one and see if you don't agree that it's one heck of an antenna for the money! Height: 7' 7" 200 watt power rating.

FMA200	**5/8 Wave Colinear Antenna, 200W Max**	**$129.95**
FMC50	**50' Low Loss LMR400 Coax, PL259/Type-N Connectors Preassembled**	**$125.00**
FMC100	**100' Low Loss LMR400 Coax, PL259/Type-N Connectors Preassembled**	**$200.00**

KIT

Log Periodic Directional FM Antenna

Professional quality, Log Periodic design!

- ✔ Horizontal or vertical polarization
- ✔ Quadruples your transmit power!
- ✔ Directional pattern ideal for putting signal where you want it!
- ✔ 2 versions: semi-pro and heavy duty professional grade
- ✔ All elements at DC ground for excellent lightning protection
- ✔ Greater than 7 dB gain and 15 dB front to back ratio!

We developed this antenna for those applications where you don't need to provide omnidirectional coverage. Where, you might ask? When you are on the edge of town and you want to concentrate your signal into the most populated area, why waste signal on the outskirts? Your signal is directed into the forward path with a multiplying effect of over 4 times while the signal coming off the back is reduced by over 30 times! The log-periodic design is wideband over the entire FM band meaning that you don't have to retune the antenna when you change frequencies. Also, the antenna is designed to be at DC ground which means a lot when you're in a thunderstorm prone area! Two versions are available to satisfy the semi-commercial operator and the full-fledged professional. Professional version uses solid aluminum elements and booms while the semi-pro uses hollow elements and extruded boom. Longest element 71" boom 45". Includes mounting brackets for horizontal or vertical use.

FMA300	**Log Periodic Directional Antenna, 300W Max**	**$379.95**
FMA400	**Heavy Duty Log Periodic Antenna, 1000W Max**	**$429.95**

Underwater Color Camera Package

- ✔ DSP waterproof color camera with built in IR Illumination
- ✔ Automatic low light switching to BW plus IR mode
- ✔ 5.6" color TFT monitor
- ✔ Submersible to 150'

Underwater, Auto IR Illumination!

CAMERA	
TV System:	NTSC
Image Sensor:	1/4-inch CCD image sensor
Image Size:	4.57(H) x 3.9(V)mm
CCD Effective Pixels:	542(H) x 496(V)
Scanning System:	(NTSC): 525 lines, 60 fields/sec
SYNC System:	Internal
Sensitivity:	1 lux F1.2, 0 lux (IR ON)
Lens:	4.3mm/F1.8
Resolution:	380 TV lines
S/N Ratio:	Better than 56dB (AGC OFF)
White Balance:	Auto (3200-10000°K, 0 color rolling
Electronic Shutter:	1/60-1/120,000 sec.
Video Output:	1.0Vp-p composite video at 75 ohm
Gamma Correction:	0.45
Gain Control:	AGC
Water Resistance:	IP 68
Storage Temp:	-30°C to + 60°C
Operation Temp:	-20°C to +50°C
IR Illumination:	12 unit 840nM LED, 6000 Hrs
View Angle:	70°
Beam Spread:	30°
IR Distance:	10 meter
Power Source:	Cam: 12VDC@ 90mA; IR: 12VDC@180mA
Construction:	Aluminum anodized finish, anti-fog glass
Dimensions:	49mm x 79mm
Weight:	.41 lbs

Well, where do we begin with this one! First we have a NTSC color camera engineered with the latest DSP technology, then we surround the lens with 12 IR LED's for infrared illumination or night vision. Of course, the color camera changes to the IR B&W night vision mode AUTOMATICALLY when light conditions drop below color levels! Then, the whole thing is housed in a watertight underwater housing designed to withstand 150' depths, and meets IP68 standards. 12VDC and video connections are brought out in a watertight 65' built-in cable, with a single DIN connector on the end! It even has anti-fog glass!

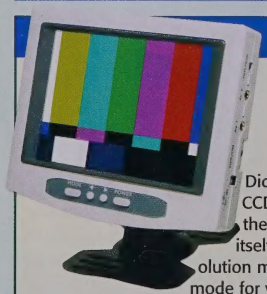
LCD TFT MONITOR	
Screen Size:	5.6" Diagonal
Pixels:	224,640 dots
Dot Pitch:	0.120mm(H) x 0.36mm (V)
System:	NTSC/PAL selectable
Input Signal:	1.0Vp-p composite video at 75 ohm
Video Inputs:	(2) Mini video/audio inputs, (1) DIN input
Operation Temp:	-5°C to +50°C
Storage Temp:	-25°C to +70°C
Power Source:	12VDC, 6W max
Dimensions:	160mm x 133mm x 31.4mm
Weight:	465g

That's the camera, now there's the monitor! A state of the art 5.6" (Diagonal) color TFT LCD multifunction monitor! You plug the DIN plug from the camera directly into the TFT monitor. PLUS, the monitor has TWO separate video/audio inputs! These are selectable through on-screen menus. Need mirror image? No problem; that is also selectable directly on the monitor AND via on screen menus, as is brightness, contrast, color and hue. Yes, we mentioned audio, two break-out video/audio cables are also included with the monitor! The monitor is powered by 12VDC and a 110VAC power adapter is included. Of course there is a very handy multi position swivel mount for the monitor, complete with a quick release. If you're looking for a GREAT value, and a GREAT package, this is it! Color DSP Camera Underwater to 150', 2 Channel TFT Color Monitor, IR Illumination, Auto IR Switching, and 65' of cable...all at a super price! *So what IS at the bottom of that lake? Nessie? My car keys I dropped?*

CCD322 **Underwater Color Camera Package, Fully Assembled & Tested** **$429.95**

5.6" Color TFT Monitor

- ✔ Lightweight and small for portable and mobile applications
- ✔ Reverse image mode for vehicular use
- ✔ Two channel A/V input!
- ✔ Universal mount fits any application



You Asked For It... So Here It Is!

Did this ever take us by surprise! We put together the incredible CCD322 underwater camera package, and as people received them, they liked it so much they started calling to buy the TFT monitor by itself! Well...here you go. This is a really cute 5.6" color TFT high resolution monitor. It has two channel input and it even has a mirror reverse mode for vehicle applications! Comes with a very handy swivel mount that works in virtually any mounting situation, and includes the AC power adapter, and two video/audio input cables (Dual RCA to 3.5mm video/audio mini phono). A great monitor to keep the kids happy in the back seat! I personally keep one of these at my desk to monitor the webcam feed in the building...I never use it to watch movies on the 2nd channel while I'm working, really! (And I don't use one to watch him watching Ch.2 either! ed.)

SPECIFICATIONS	
Screen Size:	5.6" Diagonal
Pixels:	224,640 dots
Dot Pitch:	0.120mm(H) x 0.36mm (V)
System:	NTSC/PAL selectable
Input Signal:	1.0Vp-p composite video at 75 ohm
Video Inputs:	(2) Mini vid/audio inputs, (1) DIN input
Operation Temp:	-5°C to +50°C
Storage Temp:	-25°C to +70°C
Power Source:	12VDC, 6W max
Dimensions:	160mm x 133mm x 31.4mm
Weight:	465g

CCM501 **5.6" Color TFT Video Monitor, 12VDC, Factory Assembled & Tested** **$229.95**

Using CCD Cameras?

Check Out The 960 Hour Time Lapse VCR on Page-14!

Capture it ALL on a standard VHS tape!

Waterproof Color & BW Bullet Cameras with Built-In IR Illumination!

Wired & Tested

- ✔ Day & night monitoring! CCD color image automatically changed into B/W image in the dark!
- ✔ High output built-in IR illumination for B&W nighttime use
- ✔ Weatherproof black anodized aluminum housing for outdoor use
- ✔ Fool-proof interfaces...BNC video & power

Yes...We Said COLOR plus IR Illumination!!

SPECIFICATIONS	CCD309	CCD308
Pick-up element:	1/4"	Sony 1/3"
Number of pixels:	512 x 492	542 x 492
Resolution:	350 TV lines	420 TV lines
Min. illumination:	0.0 Lux	0.0 Lux
S/N ratio:	46dB	46dB
Electronic shutter:	1/60 to 1/100,000	1/60 to 1/100,000
Load Impedance:	75 ohm	75 ohm
Standard board lens:	3.6mm, F2.0	6mm F1.8
Power:	DC 12V 150mA	DC 12V 180mA
Dimensions:	2.0" W x 3.2" L	2.0" W x 3.2" L

Talk about the best of both worlds! High quality COLOR video camera, PLUS nighttime B&W video camera, PLUS built-in high output IR Illumination, PLUS auto mode switching...all in one unit!

You've see bullet cameras before, but never like this. Yes, it's a high quality color CCD camera during the day. Once the light level falls below minimum requirements, it automatically changes to an IR B&W camera, and turns on the built-in TEN IR illuminating LED's to see in the dark! Now you don't have to sacrifice color operation because you need total darkness coverage at night. You can have both, in one camera!

That's not all! Just look at the case. Jet black solid aluminum case that's WATERPROOF to IP57 standards! Yes, that includes temporary complete immersion in water! All angle, built-in swivel mount provides you with any mounting configuration you may need. Connections are simple. No solder connections needed; the waterproof cable terminates video with a professional BNC female connector, and provides a standard 2.1mm DC power connector. Simply plug it in!

It only gets better... Take the same camera, and with a mere switch closure, get 2X digital zoom! That's right, our CCD321 also includes 2X digital zoom, and we even provide a high quality push button switch for it! You'll be amazed, setup the camera for your wide angle view, and with a click of the switch you have 2X! And you do that at the cable end, not at the camera! Don't need color, but want the same high-end housing and built-in IR Illumination in a Hi Resolution B&W unit? No problem, use the CCD308 *(I set one of these up for our webcam, pushed the button, and saw one of our people sleeping at the bench!)*

CCD309	**Waterproof Color Bullet Camera with Built-in Auto Switching IR Illumination**	**$169.95**
CCD308	**Waterproof B&W Bullet Camera with Built-in Auto Switching IR Illumination**	**$109.95**
CCD321	**Waterproof Color Bullet Camera with Built-in Auto Switching IR Illumination, 2X Remote Zoom**	**$239.95**
AC125	**110VAC Power Supply**	**$9.95**

Weatherproof "Bullet" Cameras

Wired & Tested

Indoors or Out...A GREAT Value!

- ✔ Highest Quality Sony CCD Image Sensors
- ✔ B&W, Super HAD Hi Res, or Color
- ✔ Universal Swivel Mounting Bracket
- ✔ Weatherproof, Suitable for Outdoor Use!
- ✔ Simple Plug-In Connections

SPECIFICATIONS	CCD307	CCD318
Pick-up element:	Sony 1/3" HAD	Sony 1/3"
Number of pixels:	768 x 494	290K
Resolution:	600 TV lines	380 TV lines
Min. Illumination:	0.2 Lux	0.2 Lux
S/N ratio:	48dB (AGC off)	>50dB
Electronic shutter:	1/60 - 1/100,000	1/50 - 1/100,000
Impedance:	75 ohm	75 ohm
Lens:	3.6mm	3.6mm
Connectors	BNC/Power	BNC/Power
Power:	DC 12V/90mA	DC 12V/120mA
Dimensions:	3" L x 0.8 "H	3" L x 0.8 "H

Looking for the highest quality "lipstick" or "bullet" cameras, but don't want to pay a fortune? These are the cameras for you! All feature Sony manufactured CCD sensors for the highest quality and reliability. Available in standard B&W, high resolution Super HAD B&W, and color. Constructed of black anodized sealed aluminum cases, with a commercial quality swivel mount. Allows you to mount these cameras at any angle, any position, for the view you need. Video is brought out to a standard BNC female connector, and power is brought out to a standard 2.1mm DC power connector. Whatever your choice, we've got it!

CCD306	**B&W Weatherproof Bullet Video Camera**	**$73.95**
CCD307	**B&W Weatherproof Super HAD Ultra High Resolution Bullet Video Camera**	**$110.95**
CCD318	**Color Weatherproof Bullet Video Camera**	**$139.95**
AC125	**110VAC Power Supply**	**$9.95**

Complete BW IR Illuminated Camera Kit

Wired & Tested

- ✔ Built-in IR illumination!
- ✔ All Set and Ready to Go!

Everything is Included...at an Unheard of Price!

An entire wired camera solution, with infrared illumination, at this price? You bet! This small, attractive looking camera packs a ton of features, at an unheard of price. The camera is mounted on a swivel base for easy mounting, and even includes the hardware necessary to mount the unit. And the best part of all... infrared illumination on board! That's right, this camera will be able to 'see' in complete darkness! At this price, you'd expect to be sacrificing picture quality for the added features, but this camera has a crisp black and white image that is sure to impress. That's not all you get in this great package deal. We also provide a power supply, and a full 60ft of high quality cable. Just plug in the power supply, and make the connections to your TV or VCR at one end, run the cable (Just ONE cable!) and plug it into the back of the camera. That's it! No complicated wiring!

CCD312	**All In One B&W Self Enclosed Video Camera with IR Illumination, Cable and Power Supply**	**$59.95**

Wired & Tested

Sub-Miniature CCD Board Camera Modules

Pinhole, Wide Angle or Color!

- ✔ Highest quality Sony CCD image sensor
- ✔ Fool-proof interfaces...professional connectors AND wire leads!
- ✔ Great S/N and resolution!
- ✔ Small compact size

There are a lot of board camera modules out there. But this one is the cream of the crop! First off, take its size, a mere 1.25" square! Then take the ultra high quality Sony 1/3" CCD image sensor to give you over 400 lines of resolution, a simple quick connect cable, and you have the best board camera value going!

Unlike other board cameras that require soldering and custom interfaces, this camera comes complete with an interconnection cable that simply plugs into the board. Video is brought out on a professional BNC female connector, and power to a standard 2.1mm DC power connector for use with a 12VDC wall transformer. Plus, if you have a custom wired application, a plug-in to wire lead cable is ALSO included! Whether you're building a PC camera, webcam, electronic babysitter, or have a custom application, this will fit the bill...with lots of room to spare!

SPECIFICATIONS

	CCD300	CCD301
Pick-up element:	1/3" Sony	Panasonic 1/3"
Number of pixels:	512 x 492	512 x 492
Resolution:	400 TV lines	420 TV lines
Min. Illumination:	0.1 Lux Pinhole	1 Lux WA
S/N ratio:	48dB (AGC off)	48dB
Electronic shutter:	1/60 to 1/100,000 sec	1/60 to 1/100,000 sec
Load Impedance:	75 ohm	75 ohm
Board lens:	Pinhole F2.0	Wide 3.6mm F2.0
Connectors:	Plug-in harness plus bare wire	
Power source:	DC 12V 120mA	DC 12V 100mA
Dimensions:	1.25"W x 1.25"H	1.25"W x 1.25"H

CCD300	**Subminiature B&W Board Camera, Pinhole Lens**	**$69.95**
CCD301	**Subminiature B&W Board Camera, Wide Angle Lens**	**$69.95**
CCD302	**Subminiature Color Board Camera, Pinhole Lens**	**$132.95**
AC125	**110VAC Power Supply**	**$9.95**

Mini B&W Camera with IR Illuminator!

Wired & Tested

- ✔ Built in IR illumination!
- ✔ Fool-proof interfaces...BNC video & power
- ✔ Small, compact, and INEXPENSIVE!

Ultra Small... And Sees In The Dark!

SPECIFICATIONS

Pick-up element:	1/3" Samsung
Number of pixels:	510 x 492
Resolution:	380 TV lines
Min. illumination:	0 Lux
S/N ratio:	48dB (AGC off)
Electronic shutter:	1/60 to 1/100,000 sec.
Load Impedance:	75ohm
Lens:	Board 3.6mm / F2.0
Connectors:	Harness
Power:	DC 12V 180mA
Dimensions:	2.0" W x 1.6" H x .63" D

You won't believe the size, quality, and price of this beauty. This compact camera employs a high quality 1/3" Samsung CCD image sensor. Black and white images are crisp and clear from this tiny camera. But, when the lights go out... illumination is provided by SIX IR illuminator LED's to provide a perfect view in total darkness! Built for extremely long life and high reliability, the camera is housed in a solid black matte aluminum housing with a single miniature connector on the back. A matching swivel mounting bracket is included. A professional cable harness is also included to bring out video to a BNC female connector, and power to a standard 2.1mm DC power connector, making this camera great for both custom and standard installations.

CCD303	**Miniature B&W Video Camera with Built-In IR Illuminator**	**$59.95**
AC125	**110VAC Power Supply**	**$9.95**

Wired & Tested

Automatic Motion Sensing Camera Setup with IR VCR Recording

Senses Motion, Turns on Your VCR!

- ✔ Built-in Motion Sensor
- ✔ Automatic VCR Recording!
- ✔ Complete System, Includes Everything!

Many of us who have been eyeing security cameras for our homes or small businesses have hit upon a fundamental problem. Once you get everything wired up, how do you record? For some, the answer is watching hours and hours of wasted video tape to get to the action. Others spend thousands on time-lapse or other special VCRs. But now, there's a perfect solution for all of us! This amazing camera actually senses motion, then triggers your regular home VCR to start recording any time something happens! Not only that, it automatically stops recording soon after the movement ends! And it works with your regular home VCR! Just connect your VCR to the camera, plug in the included power supply, and run the included 50ft wire to the camera. Next, place the infrared light with the suction cup on the front of your VCR. Take a minute to set the code for your VCR (Almost all VCRs are supported) by setting a few switches on the back of the camera. That's it! You now have a complete security system that will rival systems costing thousands more! We were stunned by this camera. It's so easy to set up, works so perfectly, and the automatic recording alone is enough to make you drool over this camera. But, there's more in this black and white model! It also includes a built-in INFRARED ILLUMINATOR! No light required!

SPECIFICATIONS

	CCD313	CCD314
Pick-up element:	Sony 1/3"	Sony 1/3"
Resolution:	525 TV lines	525 TV lines
Min. Illumination:	0.0 Lux	0.5 Lux
S/N ratio:	45dB	45dB
Electronic shutter:	1/60 - 1/100,000	1/60 - 1/100,000
Impedance:	75 ohm	75 ohm
Lens:	3.7mm	3.7mm
Connectors	Direct	Direct
Power:	Included	Included
Dimensions:	2.3"W x 5.2"H x 2.4" D	2.3"W x 5.2"H x 2.4" D

CCD313	**Complete Motion Sensing B&W Video Camera Setup**	**$119.95**
CCD314	**Complete Motion Sensing Color Video Camera Setup**	**$149.95**

2.4 GHz Wireless Video, Remote Control and Security System

Wired & Tested

- ✔ Color Wireless Video
- ✔ Wireless Remote Control
- ✔ Wireless Motion Sensing Security
- ✔ Much, Much More!

The COMPLETE Wireless Solution!

- 2.4 GHz Wireless Color Camera
- 2.4 GHz Wireless Receiver
- 3ft Coax
- 6ft RCA Patch Cables
- Mounting Screws
- Standard Receiver Power Supply
- X-10 Enabled Camera Power Supply
- X-10 Motion Detector (Requires 2x AA)
- X-10 Transceiver Module
- X-10 Camera Control System (Requires 2x AAA)

You've seen these wireless video cameras advertised all over the net. You may have even been interested in one. What you probably noticed is, the only way to get a good price is to buy into a package deal that involves much more equipment than you need for your application, often at a higher price than you wanted to spend in the first place. Well, not only do we have these great cameras, we have them with a small set of extras that are actually useful!

You'll get a small camera that has its own built-in 2.4GHz wireless video transmission system, and a receiver for that camera. Sounds pretty basic, right? Well, not only do you get those items, but the power supply for the camera is X-10 enabled! That means you can turn the camera on and off remotely! Doesn't do a lot of good unless you have an existing X-10 system installed right? Well, we also give you everything else you'll need to get up and running with X-10! What is X-10? X-10 is the process of controlling lights, appliances, electronics, and other devices through their power outlets. A myriad of different modules and remotes are available, and are very inexpensive. As well as the camera, receiver and special power supply, you'll get an X-10 motion detector, an X-10 transceiver module and a large wireless remote camera control! What can you do with all this gadgetry? You can use the remote to switch between different cameras at the press of a button; no extra switch boxes or receivers. It works by simply switching the actual power to different cameras on and off! Use the motion detector to turn on the light you might have plugged into the transceiver module, or use it to turn on the wireless camera automatically. But it doesn't stop there! You can move up to full automation of your lights and appliances with just a few more modules that are readily and inexpensively available.

All this amazing stuff is incredibly easy to set up too! There are no wires to run; just plug each item into the wall and set a unique ID number using the rotary switches, then make the video connections between the receiver and your TV or VCR! It really is just that easy!

CCD315 **Complete 2.4 GHz Wireless Video, Remote Control, and Security System** **$129.95**

Wired & Tested

2.4 GHz Wireless Video Systems

- ✔ Indoor and Outdoor Models
- ✔ X-10 Quality
- ✔ Packaged Right!

2.4 GHz Video Systems... No More Wires!

Complete Outdoor System

- 2.4 GHz Transmitter
- 2.4 GHz Receiver
- Wired outdoor video camera with audio
- Necessary patch cables and power supplies

Yes, we said outdoors! The weather resistant fully, enclosed color camera can be mounted outside enduring the elements while connected via a simple modular style cable (60' included) to the 2.4 GHz transmitter located indoors. The transmitter even provides power to the camera; no need for an additional power outlet! Locate the matching 2.4GHz receiver anywhere within your house to pick up the video & audio sent from the transmitter and connect it to your monitor or VCR. It's that simple! Range is approximately 100', and being 2.4 GHz, the signal goes through walls and floors!

This is the perfect camera for watching the backyard, driveway, entrances, or even birds and wildlife! Also perfect indoors for use as a regular security camera! This is a truly versatile camera system! And don't forget, all the necessary cables are included!

Indoor Integrated Camera/Transmitter

- 2.4 GHz Wireless Color Camera
- 2.4 GHz Wireless Receiver
- 3ft Coax
- 6ft RCA Patch Cables
- Mounting Screws
- Standard Receiver Power Supply
- X-10 Enabled Camera Power Supply

These are the wireless video cameras advertised on so many websites. The pricing is out of reach; unless you buy into a package that has more equipment than you were looking for. Well, we put a basic package together for you...at a great price!

You'll get a small camera that has its own BUILT-IN 2.4GHz wireless video transmission system, and a matching video/audio receiver. Sounds about as basic and bland as 2.4GHz wireless video can get, right? WRONG! The power supply for the camera is X-10 enabled! This allows you to add this camera to an existing X-10 home automation system (CCD315 above), or as a part of a future system! And of course, all mounting hardware and cables are included with the package. Just like the CCD316 package, range is approximately 100', and being 2.4 GHz, the signal goes through walls and floors!

CCD316 **Complete Outdoor 2.4 GHz Wireless Video Camera System** **$109.95**
CCD317 **Complete Integrated 2.4 GHz Wireless Video Camera System** **$109.95**

Wired & Tested

Color and B&W Quad/Sequential Switchers

Full Motion Quad Display! Color or B&W

- ✔ Full Motion Quad Display
- ✔ Automatic Sequential Switching
- ✔ Professional Quality at a Bargain Price!

CCDS311

This color, professional quad processor/switch really amazed us! It's simple to set up, but has all the power and features you'd expect from units costing hundreds more. Plug in up to four color cameras or video sources, and watch them displayed in FULL MOTION, in color, on one screen! Not sure which camera is which? No problem! Camera ID text generators name each camera view, plus the time! Want more? Has one touch freeze frame of any of the inputs, auto freeze and alarm at loss of signal, on-screen user menu provides all setup, ID generator, level and format functions. Plus independent title settings, 8 characters per channel with 3 character colors based on 16 million true colors, built-in bar generator for monitor setup, and VCR in to support 2x2 Zoom-In and freeze function for playback. It doesn't get much better than that!

CCDS310

Does all this overwhelm you, when all you need is a high quality monochrome quad/sequential switcher? We've got you covered there too! Our CCDS310 is similar to the color switcher above, but without all the bells and whistles. Made specifically for monochrome CCTV cameras or video sources, it provides the same quad display of up to four sources. Manual push button full screen selection of any input, quad display, or sequential display is all controlled from the front panel. Each input has separate video gain adjustments to set levels for a perfect view. Both units feature professional BNC video input connections.

CCDS311	**Professional Color Quad/Sequential Switcher**	**$269.95**
CCDS310	**Professional B&W Quad/Sequential Switcher**	**$119.95**

960 Hour Time Lapse VCR

- ✔ 24 Hours real time recording!
- ✔ 1280 Hours time lapse recording (with T160 tape)
- ✔ DLC drum for increased head life
- ✔ Records audio as well as video (in 2, 6, 18 & 24 Hr modes)
- ✔ IR remote, self diagnosis, menu driven

Wired & Tested

Color Time Lapse With Audio!

SPECIFICATIONS

Recording		
Recording method	Dual-azimuth 4-head rotating helical scanning system	
Audio recording	In 2, 6, 18 and 24 hour modes	
Tape speed	33.35m/sec (2 hour mode)	
Specified video cassette tape	VHS 1/2 inch video cassette tape	
Recording/playback time	2/6/18/24/36/48/72/96/120/168/240/360/480/720/960 hours (when using T-120 tape)	
Fast forward/rewind time	Within 3 minutes (when using T-120 tape)	
Television system	NTSC color TV system	
Video		
Recording method	Luminance signal: FM recording ~0.8V Down-converted subcarrier phase shift system	
Video input	1 Vp-p, BNC, 75 ohm, unbalanced	
Video output	1 Vp-p, BNC, 75 ohm, unbalanced	
Horizontal resolution	Black & white mode	300 lines
	Color mode	250 lines
Audio		
Input	RCA pin jack more than 47k ohm -8.8dBm, unbalanced	
Output	RCA pin jack less than 1.5k ohm -7.8dBm, unbalanced	
Microphone input	-60 dBs, 3.5mm mini jack, 10k ohm, unbalanced	
Connectors		
Alarm input	DC 4~5V(Open), DC 0~0.8V(Closed)/5.7k ohm	
Alarm output	DC 4~5V(H), DC 0~0.8V(L)/5.7k ohm	
Panic input	DC 4~5V(Open), DC 0~0.8V(Closed)/5.7k ohm	
End output	DC 4~5V(H), DC 0~0.8V(L)/5.7k ohm	
Warning output	DC 4~5V(H), DC 0~0.8V(L)/5,7k ohm	
Series input	DC 4~5V(H), DC 0~0.8V(L)/5.7k ohm	
Series output	DC 4~5V(H), DC 0~0.8V(L)/5.7k ohm	
Switch output	DC 4~5V(H), DC 0~0.8V(L)/5.7k ohm	
Common	OV(GND)	
Other Specifications		
Operating temperature range	41°F - 104°F	
Operating humidity range	80% or less	
Power requirements	AC 90-240V~ , 60hz	
Power consumption	17W	
Dimensions	360(W) x 90(H) x 289(D)	
Weight	approximately 4.3kg	

Finally, Time Lapse recording made affordable for everyone, and without sacrificing a bit of quality! Standard VHS tapes are used in our CCT960. And get ready for this one...on a standard T-120 tape you can record up to 960 hours of video! Use a T-160 tape and you can record a whopping 1280 hours on one tape! And you can play those back in the standard 120 or 160 minute modes! Things may tend to move a tad bit quick though! No problem, you can slow down the playback to the corresponding record time for real time images.

And it gets even better! The CCT960 even records audio in the continuous modes. That's right, you can have up to 24 hours of color video and audio time lapse recording on one T160 tape! This is not a modified VHS VCR, but one made from the ground up for Time Lapse and security use. Heavy duty 4 Head DLC drum gives you increased head life for the continuous duty operations normally used with these units. On-screen menus provide full control and setup functions, and are accessed by the IR remote control included. You can program timed start and stop recording, or external alarm input recording. We've got one of these running on our webcam in the 960 hour mode, and it's incredible how fast we get stuff done! (Or does it take us 960 hours to do something that should take 2!)

Hours T-120	Hours T-160	Record Fields/Sec	Record Interval	Audio Recording	Tape Motion
2 (SP)	2.67	1/60 Sec.	60	Yes	Continuous
6 (EP)	8	3/60 Sec.	60	Yes	Continuous
18 (EP)	24	3/60 Sec.	20	Yes	Continuous
24 (SP)	32	0.22	5	Yes	Continuous
36 (SP)	48	0.32	3.33	No	Intermittent
48 (SP)	64	0.42	2.50	No	Intermittent
72 (SP)	96	0.62	1.6	No	Intermittent
96 (SP)	128	0.82	1.25	No	Intermittent
120 (SP)	160	1.02	1	No	Intermittent
168 (SP)	224	1.42	0.71	No	Intermittent
240 (SP)	320	2.02	0.5	No	Intermittent
360 (SP)	480	3.02	0.33	No	Intermittent
480 (SP)	640	4.02	0.25	No	Intermittent
720 (SP)	960	6.02	0.17	No	Intermittent
960 (SP)	1280	8.02	0.13	No	Intermittent

CCT960	**960 Hour Color Time Lapse VCR, Factory Assembled & Tested**	**$399.95**

The Cubes! World's Smallest Video Transmitters

Wired & Tested

- ✔ Crystal Clear Transmission
- ✔ Transmits on CATV channel 59
- ✔ Ultra Small for ANY Application!

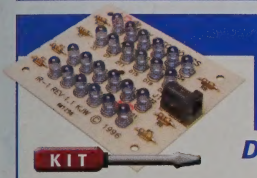
The Size Of A Quarter? You Bet!

Perfect video transmission from a transmitter you can hide under a quarter and only as thick as a stack of four pennies! Transmits color or B&W with fantastic quality - almost like a direct wire connection to any TV tuned to cable channel 59. Crystal controlled for no frequency drift with performance that equals law enforcement models that cost hundreds more!

Basic 20 mW model transmits up to 300' while the high power 100 mW unit goes up to 1/8 mile. Units run on 9 volts and hook up easily to most any CCD camera module. Any of our camera modules have been tested to mate perfectly with the Cubes and work great with solid, trouble-free operation! Fully assembled and tested - just hook-up power and you're on-the-air with a killer system! *These new quarters are ugly!*

C2000	**Cube Video Transmitter, Factory Assembled and Tested**	**$79.95** ~~$99.95~~
C2001	**High Power Cube Video Transmitter, Factory Assembled and Tested**	**$109.95** ~~$139.95~~

Infrared Illuminator



- ✔ Great for Do-It-Yourself Camera Projects
- ✔ Amazing Illumination!

Don't Let Darkness Dim Your View!

Imagine being able to see in total darkness! It's easy with one of our CCD video cameras and this neat-o IR illuminator! There's nothing magic about this kit - it's just an array of 24 high intensity IR LEDs and appropriate drive circuitry. The real magic is in the CCD video camera. CCD sensors are sensitive to IR light that you can't see, thus illuminate the scene with IR and the camera 'sees' just fine. The whole array will illuminate similar to what you'd expect of a bright flashlight.

IR1	**IR Illuminator Kit**	**$29.95**
AC125	**110VAC Power Supply**	**$9.95**

Camera Interface Board

- ✔ Onboard microphone!
- ✔ Provides regulated power, video & audio!

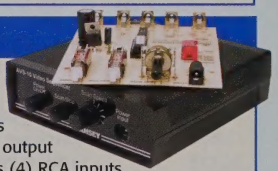
Connect That Board Camera With Ease!

Here's a nifty little board that really simplifies direct wired connection of your CCD camera module to any video monitor, VCR or video input TV set. The board provides: a clean 9 or 12 volt (your choice!) regulated and filtered source to power the camera (CCD Cameras require a stable source of power for best operation), a sensitive electret condensor microphone and audio preamp for great sound pick-up and standard RCA Phono jacks for both audio and video outputs. Power required is 11 - 20 VDC at 150 mA; our AC125 wall plug adapter works great for running cameras off the AC line current.

IB1	**Camera Interface Board**	**$19.95**
AC125	**110VAC Power Supply**	**$9.95**

Automatic Sequential Video Switcher

KIT



- ✔ Automatic Switching of 4 Video Sources
- ✔ Variable Speed
- ✔ Manual Camera Selection

Don't Miss A Beat... Watch 4 Cameras at Once!

Now you can monitor up to four video cameras or other video sources on one video monitor. The AVS10 will automatically sequentially switch between inputs one through four, and display the output on a video monitor. Perfect for multiple video camera installations, stores, household surveillance systems, and more. Has (4) RCA inputs for video input, and one RCA output connector, so you can use standard consumer video cables. Variable front panel timing control allows you to change the viewing time for each sequential view. Change it from fast to slow depending on your requirements! If you see a view you need to study you can manually select that input for constant monitoring. Case measures 5"W x 1½"H x 5¼"D. *(If you don't want to build it, see Page 14 for Quad units!)*

AVS10	**Automatic Video Sequencer Kit**	**$39.95**
CAVS	**Matching Case & Knob Set for AVS10**	**$14.95**
AC125	**110VAC Power Supply**	**$9.95**

VHF TV Transmitter

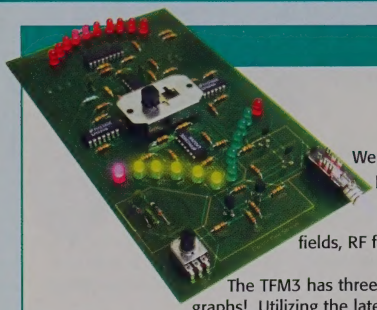
KIT

- ✔ Transmits on Channel 2-6
- ✔ Broadcast your VCR Throughout Your House
- ✔ Learn While Building!

Learn How A TV Transmitter Works!

This great little kit allows you to send any audio and video source (like a VCR or TV camera) to any TV set for up to 300 feet. Have your own TV station with YOU playing producer and YOUR selection of programming! And, the nice feature of this kit is that you'll learn just how a TV transmitter works; we explain every part of the circuit from A to Z. Tunable to any TV channel 2 - 6, runs on 12 VDC, and accepts standard audio and video signals.

TV6	**VHF TV Transmitter Kit**	**$34.95**
CTV	**Matching Case & Knob Set for TV6**	**$14.95**
AC125	**110VAC Power Supply**	**$9.95**



KIT

SCI-FI Detector You Can Build!

NEW!

Tri-Field Meter

- ✔ SEE RF, electric, and magnetic fields!
- ✔ Watch the magnetic field of the earth!
- ✔ Sense different magnetic poles!
- ✔ Detect RF transmitter fields
- ✔ Sci-Fi design
- ✔ Runs on 6 VDC

We realize you can't "beam down" to the surface of the planet, but you CAN have our new Tri-Field Meter to detect and sense the fields around you! This really neat project actually senses and detects magnetic fields, RF fields, and electric fields! Even Mr. Spock would like this one!

The TFM3 has three separate field sensors that are user selectable to provide a really cool readout on two Sci-Fi styled LED bar graphs! Utilizing the latest technology, including Hall Effect sensors, you can walk around your house and actually "SEE" these fields around you! You will be amazed what you see. How sensitive is it? Well, you see the magnetic field of the earth...THAT'S sensitive! Also detect radiation from monitors, TV's, electrical discharge, and RF emissions. You will have fun finding these fields and at the same time learn the technology behind them. Runs on 6VDC (4 AA batteries, not included). Live long and prosper! *(Editors note, our project engineer told me I could detect static in my hairbrush several feet away... But I don't have any hair!!!)*

TFM3	**Tri-Field Meter Kit**	**$39.95**

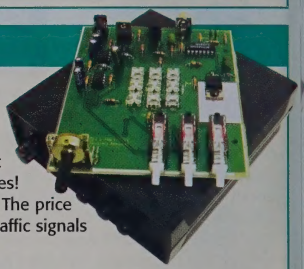
High Power LED Strobe Light

NEW!

KIT

- ✔ Everlasting LED's won't burn out!
- ✔ Variable flash rate or audio trigger!
- ✔ Base or treble trigger modes!
- ✔ Use as a stroboscope for stop action effects!
- ✔ Safe low voltage construction-no high voltage or fragile Xenon tube to break!

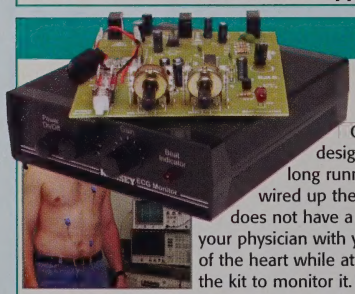
Dance To The Beat... With Super-Bright LED's!



Everyone has seen Xenon stroboscopes "stop" a spinning quarter or flash to music. Now you can get the same effect without the expense and hassle of high voltage Xenon tubes! That's right, a strobe without a Xenon flash tube to break! The price of super bright LEDs keeps falling as their light output keeps increasing, making them affordable for everything from traffic signals to vehicle tail lights... and now flashing strobe lights!

A 3x3 array of super bright Telux™ LED's creates a brilliant sharp flash just like a Xenon flash tube. In the standard flash mode, a variable rate control varies the flash frequency from approx 1 to 220 flashes per second. In the audio sync mode, the flash is triggered by any audio input you provide into the standard RCA audio input connector. Built-in low and high pass filters allow you to select either base or treble music triggering! An external trigger in/out connector lets you connect multiple units together for simultaneous flash. Just imagine surrounding your room with a few of these, triggered to your stereo! Runs on 12-15 VDC, and unlike the high voltage Xenon strobes of the past, the LEDS1 is safe for the kids to build! Install the strobe in your own case, equipment, or "environment" or order our matching case & knob set for a ready-to-go kit. Be one of the first to experience the new high output LED's of 2003! ***(Note-Exciting new add-on remote Strobe Light LED display panels, coming soon!)***

LEDS1	**High Power LED Strobe Light Kit**	**$39.95**
CLEDS	**Matching Case & Knob Set for LEDS1**	**$14.95**
AC125	**110VAC Power Supply**	**$9.95**



KIT

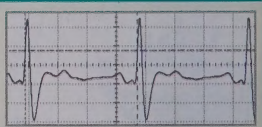
Wired & Tested

Electrocardiogram Heart Monitor

- ✔ Visible and audible display of your heart rhythm
- ✔ Re-usable sensors included; just like visiting the lab at the hospital!
- ✔ Bright LED "Beat" indicator for easy viewing
- ✔ Monitor output for professional display on your oscilloscope
- ✔ Simple and safe 9V battery operation

Check Your Own Heart!

One of the main reasons we designed the ECG1 was to answer a long running debate here at the shop. We wired up the 'Boss' and finally confirmed he does not have a heart! Use the ECG1 to astound your physician with your knowledge of ECG/EKG systems. Enjoy learning about the inner workings of the heart while at the same time covering the stage-by-stage electronic circuit theory used in the kit to monitor it. The three probe wire pick-ups allow for easy application and experimentation without the cumbersome harness normally associated with ECG monitors. The documentation with ECG1 covers everything from the circuit description of the kit to the circuit description of the heart! Multiple 'beat' indicators include a bright front panel LED that flashes with the actions of the heart, an adjustable level audio speaker output supporting mono or stereo hook-ups, and a monitor output to view the traditional style ECG/EKG waveforms you see on ER! The fully adjustable gain control on the front panel allows the user to custom tune the differential signal picked up by the probes giving you a perfect reading every time! Operates on a standard 9VDC battery, not included. This is NOT a medical device, it is intended for hobbyist usage only. If you experience any symptoms, seek medical help immediately! *(Editors note: This kit is not intended for catalog editors and webmasters of Ramsey Electronics; it's too late!)*



ECG1	**Electrocardiogram Heart Monitor Kit**	**$39.95**
CECG	**Matching Case & Knob Set for ECG1**	**$14.95**
ECG1WT	**Factory Assembled & Tested ECG1**	**$89.95**
ECGP10	**Set of 10 Replacement Reusable Probe Patches**	**$7.95**

KIT

Laser Beam Audio Communicator

- ✔ Modulated at more than 16kHz for excellent voice audio fidelity
- ✔ Uses standard pocket laser module for ¼ mile maximum range (included)
- ✔ Each kit includes one transmitter and one receiver
- ✔ Includes microphone and digital AGC circuit for full audio range control
- ✔ Simple 9V battery operation

Send Audio Over That Laser Beam!

Now you can talk to your friends over one of the most secure long-distance transmission types available, a laser beam! Our new laser beam communicator allows you to talk with pretty good fidelity to your friends up to a ¼ mile away just using a pocket laser pointer. The transmitter uses a microphone or external audio to modulate a laser beam on and off at a rate of more than 16kHz so the audio fidelity is much better than that of a telephone. A telephone is limited to 3kHz, the LBC6K is limited to 6kHz. The receiver includes filtering to remove the 16kHz carrier and leave behind the high quality audio, and then boosts the level for use with earphones. To improve the fidelity of the system the transmitter employs audio AGC on the microphone to boost weak audio, and reduce loud audio so that the listener never misses a word Each kit includes a transmitter and receiver, and pocket laser pointer. This gives you a complete one-way audio path. If you need full duplex, or two way, buy two at the special price! Receiver and transmitter are designed to fit in two pieces of 2" PVC pipe for easy mounting and alignment. Each runs on a standard 9V battery, DC adapter or AC adapter (not included). Audio output drives a standard personal stereo headset. Your friends will be amazed when they see you talking over that red laser beam!

LBC6K	**Laser Beam Communicator Kit (Includes Receiver, Transmitter and Pocket Laser Pointer)**	**$39.95**
LBC6K2	**TWO Laser Beam Communicator Kits, for Duplex or Two-Way Audio** ***(Save $5.00!)***	**$74.95**

Laser Trip Sensor

- ✔ Set up a security fence for over 500 yards of continuous coverage
- ✔ Includes both Audible and Visible Alert indicators!
- ✔ 5 Amp external trigger relay for custom applications!
- ✔ Detector standby current draw of only 10 uA!!!

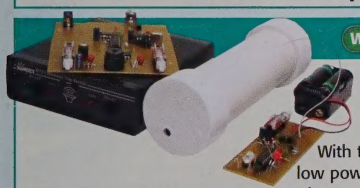
Build it tonight and you'll sleep tight!

KIT

For years hobbyists have been intrigued by the possibility of using a 'beam of light' to control other devices! The abundance of inexpensive laser elements that have now become available has further pushed the demand for useful products and experimental kits. The LTS1 Laser Trip Sensor was developed with the intention of providing a fun and educational kit that can actually be used constructively upon completion. The kit comes with all you'll need to set up your own laser fence: the laser element (small keychain type high power laser pointer!), the PVC enclosure, and the laser detector with built in Audible and Visible Alert indicators. *(And yes, you can put the laser pointer on your keychain instead, and get thrown out of concerts, no problem!)*

The LTS1 can be used in a number of different ways. The break-away circuit board gives the user the flexibility of remotely mounting the detector circuit (optionally powered with a standard 9 Volt battery) over 500 yards away without the need for mirrors. If mirrors are used, arrangements in a doorway or as a perimeter fence can almost guarantee detection of any unwanted guests. For added functionality, the relay output (5 Amp rating) can be used to drive other devices such as an event counter, lights, or even camera modules! Operates from 9 - 18 VDC @ 90 to 100 mA. Detector portion can use a standard 9V battery with long life. Board dimensions: 4" L x 1" W (max component height: 5/8"). Includes a 6" length of 1¼" ID PVC to conveniently house and mount the board assembly.

LTS1	**Laser Trip Sensor Alarm Kit**	**$29.95**
AC125	**110VAC Power Adapter**	**$9.95**



Wired & Tested

KIT

Wireless Trip Sensor

Remotely Detect Motion!

- ✔ Our popular Laser Trip Sensor...*NOW WIRELESS!*
- ✔ Remote sensing up to 300' away
- ✔ Provides both audible and visual alarms

With the popularity of our Laser Trip Sensor we designed the Wireless Trip Sensor for 2003! We combined a very low power sensor along with a powerful UHF transmitter that can send from over 300 feet away. Each transmitter and receiver can be set for their individual code, allowing you to protect various 'zones' and tell you which zone was violated! The Laser source is generally placed near a continuous power source and the remote transmitter can be placed anywhere without running any wires. The laser beam is typically effective for up to 1000 feet. An added benefit of the transmitter is that you can also use a local light source rather than the laser! The WTS1 will constantly look at the ambient light in the room or area you wish to protect, and sense any blockage of the light. Once that happens, it sends its wireless signal to the matching receiver to alert you! No definitive trip paths and no wires!

The sensor/transmitter mounts in a standard piece of 1½" PVC pipe (included) for easy and inconspicuous mounting. Being battery powered, there are no wires or plugs attached. The receiver includes a visible LED alarm as well as a built in audible alarm. Once tripped, the alarm remains on until it is reset by the front panel reset switch. Transmitter and receiver work at 433MHz and are designed around our proven RF modules (Page-35). Receiver includes a built in wire whip antenna. Receiver operates on four AA batteries (not included) and the receiver runs on 9-15 Volts DC, or our AC125 power adapter (optional). Optional case size 5"W x 1½"H x 5¼"D. Find out when someone goes into that room today, with the Wireless Trip Sensor.

WTS1	**Wireless Trip Sensor Kit**	**$69.95**
CWTS	**Matching Case & Knob Set**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**
WTS1WT	**Factory Assembled & Tested WTS1 With Case & Power Supply**	**$119.95**

Wireless IR Remote Repeaters

KIT

- ✔ Works with almost any remote control, does not need to be programmed!
- ✔ Transmitter converts your IR remote to RF
- ✔ Receiver converts transmitted RF back to your IR signal
- ✔ Operate from 7V to 18V AC or DC

Don't Be A Control Freak!

Have you ever been frustrated with the range of your remote controls? Tired of having to bounce your IR remote off ceilings and walls? Do you want to run your system from another room or floor? This is the answer to your prayers! Extend the range of your remote controls through walls, around corners, and even from outdoors. Unlike store bought units, error correction can be turned on for pulse width regeneration. The foolproof IR repeater! Take advantage of wireless technology with this practical kit, which almost anyone can use. The RRW1A and RRW1B pair allow you to rebroadcast your AV Infrared remote controls wirelessly on 433 MHz up to 100 feet. Broadcast through walls, doors, floors, and ceilings. Use the pair to control the satellite receiver downstairs, and watch it upstairs! Be outside and control the tunes on your stereo system in the living room! Use multiple RRW1A's to broadcast from multiple locations in the house to the single RRW1B receiver near your equipment. Feed the control freak in all of us! Both units operate on 7-18V AC or DC. For continuous operation, use our AC125 AC power adapter. Optional case measures 5"W x 1½"H x 5¼"D. *Don't you hate it when you go to someone's house and they have a dozen remotes on the coffee table? Don't they know about universal remotes?!*

RRW1A	**Wireless IR/RF Transmitter Kit**	**$24.95**
CRRW1A	**Matching Case & Knob Set for RRW1A**	**$14.95**
RRW1B	**Wireless RF/IR Receiver Kit**	**$29.95**
CRRW1B	**Matching Case & Knob Set for RW1B**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**
RRW1P	**Complete Package, RRW1A with Case, RRW1B with Case, Two AC125 Power Adapters *($104.70 Value)***	**$89.95**

Wired IR Remote Receiver/Repeater

KIT

Don't Rearrange Your Room!

- ✔ Control those components anywhere in the house
- ✔ Works with any 38 KHz carrier IR remote
- ✔ Indicator indicates IR reception
- ✔ Operate from 6V to 16V AC or DC

Have you ever been so frustrated with the range of your remote that you have to go through the effort of rearranging your entertainment room? Tired of having to bounce your IR remote off ceilings and walls? Do you want to control your system from another room? The RR1 is the answer to your prayers. We use a super integrated IR detector with bandpass filtering, AGC and RFI shielding. Receiving range is easily over 35 feet!

It extends the range of your IR remote controls to distances limited only to the wire length you use! Locate the IR receiver in a convenient location reachable with your existing remote control, and run the IR LED extender cable near the front of the equipment you wish to control. It's that easy! Keep your expensive components safely locked away, and let the RR1 be the key to control them! While you're building this kit, learn the theory of how IR remotes work and how we use the power of a microprocessor to provide you with flawless performance and the added benefit of error correction! Optional case measures 5"W x 1½"H x 5¼"D.

RR1	**Wired IR Receiver/Repeater Kit**	**$24.95**
CIRR	**Matching Case & Knob Set for RR1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

Automatic Telephone "Ring Down"

Wired & Tested

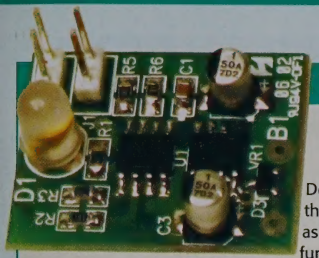
- ✔ Instant off-hook ringdown access between two telsets
- ✔ Private full duplex intercom with selectable ringdown
- ✔ Instantly generates call on offhook, no dialing!
- ✔ Test ringing, answering and signal-path functions of any telecom device

Fully Automatic, Just Go Off-hook!

What is a telephone ring down you may ask! They have been used for years as dedicated communications paths between two standard telephone sets. Over a single pair, with a phone at either end, merely going off hook with one phone, immediately rings the other phone. When picked up, you have a complete intercom path to talk. No dialing necessary!

What are they used for? Well, on the intercom or communications side, they are commonly used for elevator phones, guard post hotlines, door entry phones in homes and offices, and on commercial job sites for rugged intercoms. But it just starts there! Can be used to test ringing, answering, and signal path conditions of devices, two-wire off premise extensions, PABX to Key System tie lines, and more. Measures 5/8 x 4¼ x 2½ inches and is totally encapsulated in UL 94V-0 flame-resistant epoxy resin for long, reliable operation. Ringing pattern is selectable to continuous ring; 1 on 1 off; 2 on 2 off; 2 on 4 off. Runs on 12 VAC at 500 mA (Power Transformer is included) or 20–28 VDC at 300 mA. If you work on telephone equipment, or are just looking for an ultra reliable telephone, the QLRD1 can't be beat! *(I used these in my broadcast TV days, now I write this stuff!)*

QLRD1	**Automatic Telephone Ring Down, Factory Assembled & Tested**	**$89.95**



KIT

SMT Multi Color Microprocessor Blinky

Learn SMT With The Latest Technology LED's!

- ✔ Bright full color LED, red, green, and blue elements
- ✔ 8 Pin Microcontroller
- ✔ Operates from 6 VDC to 12 VDC
- ✔ Extra SMT components are included!

Don't let the old title "blinky" scare you away from this marvelous little kit! It was originally designed as a way to show off the latest technology in RGB (Red, Green, Blue) full color LEDs while providing kit builders with a fun and economical SMT practice kit. Uses PWM methods to generate any color with a simple 8-pin microcontroller, with switchable speed selection as well! The dual jumper control system tells the microprocessor what scanning speed is desired for a full cycle of 16,777,216 possible colors from the LED! It randomly selects different color scanning modes to wow any observer to the point of distraction. This little attention getter is fun to build and has loads of possible applications. The SBRGB is a perfect attention getter for sales displays, name badges, and beanies. Operates from 6VDC to 12VDC, and will run continuously on a standard 9V battery for several days! And if you're new to SMT technology, don't worry, we include extra SMT components to cover your mistakes! You may wonder why you would pay 30 bucks for a blinky kit! Wait till you see the LED smoothly change colors in front of your eyes! *(30 bucks is nothing, if you only knew what the development costs were!)*

Note: This kit utilizes Surface Mount Technology components. These are extremely small, and require small tweezers, magnifying glasses, and proper soldering irons. Check these out on page 47.

SBRGB1	**SMT Multi Color Microprocessor Blinky Kit**	**$29.95**

DTMF Controller Interface

KIT

Full Control From Any Telephone!

- ✔ Remote control from any DTMF device!
- ✔ Call in from the road to turn on your lights...and more!
- ✔ User configurable security code for your protection
- ✔ User feedback tones confirm remote operation success!

This microprocessor controlled DTMF decoder fits the bill for multiple applications. Remotely control almost any device with the built-in relay circuitry. The DCI series units continually monitor your phone line (or just about any other DTMF audio source) and look for the proper user programmed security code. Once it is heard, the user may select which of the trigger relays to turn on or off (2 or 4 outputs, model dependant). Feedback tones from the DCI are then sent back over the line to confirm your selection. No more wondering if your commands are carried out as is commonly found with other similar devices! Now you can call home and, when your answering machine picks up, control lights, security systems, or just about any number of other custom applications! Optional case measures 5"W x 1½"H x 5¼"D. *(DTMF, remember those old 500 series desk sets with the bakelite case and the metal rotary dial? You don't? Oh..nevermind I don't either, I'm not that old..really!)*

The DCI1 is a slim line unit with four 5 Amp (1250VA AC/150W DC) relay outputs, each with its own sure grip screw terminal. Requires 9-18VDC at 300 mA. Our standard AC125 110VAC power adapter is available. A matching case & knob set is also available to make your kit look professional and attractive in any setting.

DCI1	**DTMF Controller Interface Kit**	**$34.95**
CDCI	**Matching Case & Knob Set for DCI1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

Wired & Tested

KIT

Unbalanced to Balanced Audio Converter

Yes...RCA Phono Output To Balanced XLR!

- ✔ Connect consumer equipment to professional XLR balanced inputs
- ✔ Separate left and right audio gain adjustments
- ✔ Very clean and noise free, 10 Hz to 50 KHz

Use with our new line of LPFM transmitters to allow you to hook consumer equipment into your system. If you're like us, you have a lot of money already invested in audio equipment around the house, and you want to use it for your new LPFM radio station. The problem is that not all of your equipment has enough output level to allow you to mix the equipment properly into your main mixer. This handy kit will take that consumer audio which is usually fed through RCA type cables, and convert it in amplitude and signal to balanced line levels, while giving you two standard XLR jack outputs to plug your professional audio equipment into. Balanced line levels are much better at rejecting noise and other problems in long signal runs, so you can also use this kit to send your audio signals farther than you could with standard consumer audio connections.

R2XL1	**Unbalanced to Balanced Audio Converter Kit**	**$54.95**
CR2XL	**Matching Case & Knob Set for R2XL1**	**$21.95**
PWR25	**12VAC Power Adapter**	**$9.95**
R2XL1WT	**Unbalanced to Balanced Audio Converter, Factory Assembled & Tested**	**$99.95**

KIT

Ion Generator

Generate a Breath of Fresh Air!

- ✔ Generate negative ions along with a blast of fresh air, without any noise!
- ✔ Generates a steady state DC voltage at a constant current, not pulsed!
- ✔ Generates 7.5kV DC negative, 400uA. That's a lot of ions!

This nifty kit includes a pre-made high voltage ion generator potted for your protection, and probably the best one available for the price. It also includes a neat experiment called an "ion wind generator". This generator works great for pollution removal in small areas (Imagine after Grandpa gets done in the bathroom!), and moves the air through the filter simply by the force of ion repulsion! No fan blades, no noise, just swiftly moving, charged air. Learn how modern spacecraft use ions to accelerate through space. Use the Ion Generator to pump your VanDeGraff generator to a faster charge time, and generate negative ions for health and healing! Includes ion power supply, 7 ion wind tubes, and mounting hardware for the ion wind generator. *Caution...do not grab the output of the transformer, all the ions may be sucked out of your body! And don't you just hate it when that happens!*

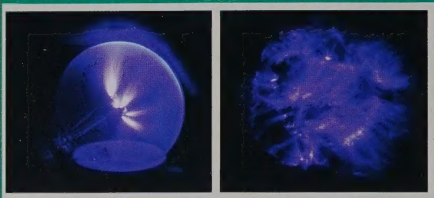
IG7	**Ion Generator Kit**	**$54.95** ~~$64.95~~
AC125	**110VAC Power Adapter**	**$9.95**

Plasma Generator

KIT

- ✔ Generate 2" sparks to a handheld screwdriver!
- ✔ Light fluorescent tubes without wires!
- ✔ Build your own Plasma Balls!
- ✔ Generates up to 25kV @ 20 KHz from a solid state circuit!

Shocking Results!



This new kit was conceived by one of our engineers that likes to play with things that can generate large, loud sparks, and other frightening devices. During the process of looking for parts for one of his latest experiments he discovered how difficult it was to find a high voltage transformer that met his requirements. Well, we had a super unit designed expressly for us!

This is one heck of a neat kit! Hey, it really serves no purpose other than producing stunning lighting displays, drawing big sparks, scaring the neighbors and performing lots of high voltage experiments. In the picture, we took a regular clear "Decora" style light bulb and connected it to the PG13 - WOW! A storm of sparks, light tracers and plasma filled the bulb. Holding your hand on the bulb doesn't hurt a bit and you can control the discharge! It can also be used for powering other experiments; let your imagination be your guide! The high voltage at the terminal won't electrocute you, so it's relatively safe, but it can burn you, so use caution. Can also be run from 5-24VDC so the output voltage can be directly adjusted. Put one in your car to freak out those SUV drivers. This is for advanced experimenters only! Not for the faint of heart! *(Unless you buy the ECG Kit on page 16, then it's OK!)*

PG13	**Plasma Generator Kit**	**$64.95**
PS12	**14VAC Output Power Adapter**	**$19.95**

KIT

Custom Hobby Case

Give Your Own Project That Finished Look!

- ✔ Rugged ABS material, easy to cut, drill, or punch
- ✔ Interlock screws for top/bottom cover
- ✔ Universal front & back panels
- ✔ Rubber feet

Need a handy little case to put your own project in? This is the same case you've seen all through the catalog for many of our kits. It's made of rugged ABS jet-black plastic with a textured finish for a rich look. We give you top and bottom pieces (that interlock for added mechanical strength), blank front and back panels, 3M brand rubber feet, and all needed hardware.

The panels are very easy to drill or punch making custom jobs a pleasure. Outside case dimensions are 5" x 5" x 1½" inches with a roomy flat area of 4" x 4 ½" inside.

CCC	**Custom Hobby Case Kit**	**$10.95**

Visit us on the Web!
www.ramseykits.com

WIN! Register to win monthly giveaways!
See Page 29 for details

OUR KITS...Case, No Case, No Power Supply?

You will see that most of our kits do NOT come with the case assembly. A lot of our customers like to custom build our kits into their existing equipment, or make their own case. Therefore, we offer most of our kits without the case, knob set and power supply if needed. This keeps the cost down and gives you the maximum value for your dollar!

We offer matching case & knob sets for most of our products to give you that finished look if desired. We also offer a number of our kits Factory Assembled which ALWAYS includes the case, knob set, and power supply as needed!

Shortwave Receiver

KIT

- ✔ Tunable over 2 MHz bandwidth anywhere in the 4 to 20 MHz Shortwave Band
- ✔ Clean superheterodyne design with automatic gain control
- ✔ Extremely sensitive front end!

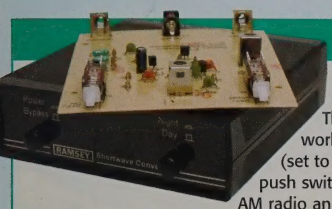
The "Beginners Receiver"!

Here's a complete shortwave radio guaranteed to inspire awe in any listener. Imagine tuning in the BBC, Radio Moscow, Radio Baghdad and other services with just a few feet of antenna. This very sensitive (about a microvolt!) receiver is a true superhet design with AGC and plenty of speaker volume. Smooth varactor diode tuning allows you to tune any 2 MHz portion of the 4 to 20 MHz frequency range, and the kit conveniently runs on a 9 volt battery (not included). Add our matching custom case and knob set to give your radio a finished, polished look. Amaze yourself and others - see how you can listen to the world on a receiver you built in an evening. Drives any speaker or earphone. Optional case size: 5"W x 1½"H x 5¼"D.

SR2	**Shortwave Receiver Kit**	**$39.95**
CSWR	**Matching Case & Knob Set for SR2**	**$14.95**

Shortwave Converter

KIT



- ✔ Receives and converts two (1 MHz wide) shortwave bands to standard AM band for listening on your existing AM radio
- ✔ Push-button switches provide easy selection of SW1, SW2 or AM Broadcast
- ✔ Tuning performed on AM radio
- ✔ Built-in antenna switching

Inexpensive Start to SWL!

The SC1 converter brings the sounds of the world right into your car, radio, or home stereo (set to receive AM broadcast band). Front panel push switches let you choose easily between regular AM radio and the shortwave bands. An additional switch allows the selection of any two bands of interest, each 1 MHz wide. Set one range for daytime frequencies and one for nighttime when propagation is different; choose any two frequencies between 3 and 22 MHz. Frequencies are tuned on your AM radio, making it easy to log stations or set presets. A built-in antenna switch automatically switches the existing AM antenna to either the radio or converter, making hook-up/operation easy and fast. As with many of our kits, a handsome matching case and knob set is available to put the finishing touches on your kit. External power jack for 9 to12VDC is a standard 2.1mm female. Optional case size 5"W x 1½"H x 5¼"D.

SC1	**Shortwave Converter Kit**	**$34.95**
CSC	**Matching Case & Knob Set for SC1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

WWV Time Receiver

KIT

- ✔ Receives 10 MHz WWV transmissions
- ✔ The world's time standard at your fingetips!
- ✔ Built-in speaker plus audio output jack
- ✔ Super easy assembly with no tuning required!

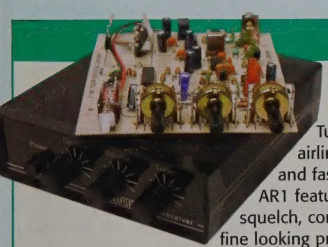
Does Anybody Really Know What Time It Is??

What time is it? This quality WWV receiver is designed to receive the 10 MHz National Institute of Standards (NIST) atomic clock - the sole time standard for the Planet! Very sensitive receiver needs only a few feet of wire to pick up WWV, utilizes unique Log/Anti-log detector circuitry for super easy assembly, alignment and operation. Detailed manual teaches theory of receiving systems - you'll be an expert after building this baby - and it only takes a few hours! Believe it or not, no tuning is required for operation! Runs on 9 volt battery, includes speaker, too. Crystal included for 10 MHz reception; change the crystal to receive other frequencies in the 5 - 15 MHz range. Don't forget to add our snazzy matching case set for a nice completed look. Anybody got the time?

HFRC1	**WWV Shortwave Receiver Kit**	**$39.95**
CHFRC	**Matching Case & Knob Set for HFRC1**	**$14.95**

Aircraft Receiver

KIT



- ✔ Picks up aircraft, control towers, and more!
- ✔ Tunes entire 118 MHz to 136 MHz Aircraft band
- ✔ Automatic gain and squelch controls

Kit Planes Magazine... "Puts you in the pilot's seat"!

Tune into the exciting world of aviation. Listen to the airlines, big business corporate jets, hotshot military pilots, local private pilots, control towers, and other interesting and fascinating air-band communications. You'll hear planes up to a hundred miles away as well as all local traffic. The AR1 features smooth varactor tuning of the entire air band from 118 to 136 MHz, effective AGC, superheterodyne circuitry, squelch, convenient 9 volt operation and plenty of speaker volume. Don't forget to add our matching case and knob set for a fine looking project you'll love to show. Operates on 9 VDC battery (not included). Use with any speaker or earphone.

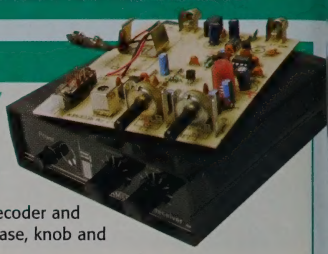
AR1	**Aircraft Receiver Kit**	**$39.95**
CAR	**Matching Case & Knob Set for AR1**	**$14.95**

FM Broadcast Band Receiver

KIT

- ✔ Standard FM receiver, with larger tuning range of 70 to 110 MHz
- ✔ Ideal for FM wireless mikes, SCA programming, or standard FM broadcasts
- ✔ Demodulated audio output for driving our SCA1 decoder

Perfect for "Out of Band" Listening

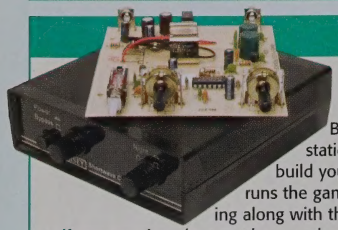


Ideal for standard FM broadcast band as well as large portions on each side, making it great for bug monitoring or detection and receiving SCA broadcasts. Features one microvolt sensitivity, 10.7 MHz IF, 250 mW audio output, varactor diode tuning, IC FM detector chip, demod output to drive our SCA1 decoder and operates on 9 VDC battery (not included). Drives any 4 - 45 ohm external speaker. Add our handsome matching case, knob and antenna set for a nice finished look. Optional case size: 5"W x 1½"H x 5¼"D.

FR1	**FM Broadcast Band Receiver Kit**	**$29.95**
CRR	**Matching Case & Knob Set for FR1**	**$14.95**

SCA Subcarrier Decoder

KIT



How DO They Get That Commercial Free Music??

- ✔ Tunes entire SCA subcarrier band, 50 to 100 KHz
- ✔ Features both speaker and line level audio outputs
- ✔ Simply plugs into our FR1 FM broadcast receiver or to detector in any FM receiver

Believe it or not, they get it off the local FM radio station, but with a special decoder. Now you can build your own decoder and tap into the wealth of programming available to those "in-the-know." Programming available runs the gamut from stock quotes, to rock music, to easy listening, to all news. These services are "hidden" in subcarriers riding along with the standard FM radio station's usual programming. The decoder connects to the detector output on an FM receiver; if your receiver does not have such an output, consider our FR1 unit featured on this page. Tune into what you've been missing, try the SCA1. Add our matching case set for that finishing touch.

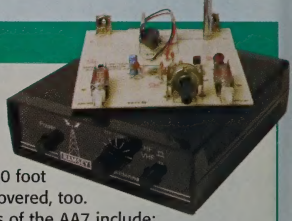
SCA1	**SCA Decoder Kit**	**$34.95**
CSCA	**Matching Case & Knob Set for SCA1**	**$14.95**

Active Antenna

KIT

- ✔ Dual Preamp for HF or VHF/UHF
- ✔ Performs like a 60' Long Wire!
- ✔ Operates as a stand-alone antenna or in conjunction with an existing antenna

Pull In Those Stations...The EASY Way!



Our AA7 features both a high gain, low noise FET and a superb microwave bipolar amplifier, letting you use the antenna on all bands - shortwave, HF, VHF and UHF! Imagine a self-contained unit just 4 inches square that pulls in the signals like a 60 foot long wire; that's the advantage of an active antenna. For jazzing up VHF/UHF receivers and scanners, the AA7 has you covered, too. Over 15 dB of gain pulls in the weak ones, whether you use the built-in telescopic whip or an outside antenna. Features of the AA7 include: Front panel RF gain control, power switch with preamp bypass switching, two position HF and VHF/UHF selector, rear panel input and output connectors, convenient 9 volt battery operation and on-board telescopic whip antenna. We think you'll agree that the AA7 is simply the most practical and best value of any active antenna on the market! Includes whip antenna. Operates on 9 V battery (not included). Don't forget our snazzy matching case set for a really nice finishing touch. Optional case size 5"W x 1½"H x 5¼"D.

AA7	**Active Antenna Kit**	**$34.95**
CAA	**Matching Case & Knob Set for AA7**	**$14.95**

Signal Magnet Antenna

Wired & Tested KIT

Pull In That Station Right Out of the Noise!

- ✔ Outstanding results from 500 KHz to 15 MHz
- ✔ High-Q Ferrite Rod antenna with Faraday shield eliminates noise from power lines, light dimmers, most static crashes, and more!

This antenna responds only to the magnetic field of the desired station and ignores the electrostatic field where most interference is found. It does a remarkable job pulling in stations lost down in the noise of powerline crud, fluorescent lamp buzz and light dimmer hash. Plus it's very directional, able to null strong stations on the same or nearby frequencies! We developed this antenna to pull in WGR, a 250 watt nighttime station 75 miles away, so we could listen to Buffalo Bills talk radio during the night. You can imagine all the powerline and equipment noise we have here at the factory. So, we came up with this ferrite rod, varactor tuned active antenna that's Faraday shielded - it only responds to the magnetic field - and boy does it do the job! Designed to cover the AM broadcast band, but includes details on building for any frequency range up to 15 MHz; it works gang-busters on Shortwave. Works indoors or out, contained in rugged PVC pipe with a single RG-59 coax cable connector. Operates with up to 500 feet of coax cable (you supply) between antenna assembly and control box (size: 5" x 5¼" x 1½"). Includes all parts, matching case set and precut PVC materials. Operates on external 120 VAC power adapter that is included. Antenna is 9 1/2" x 9" long, L-Shaped 1" pvc pipe with end caps.

SM100	**Signal Magnet Noise Reduction Antenna Kit**	**$89.95**
SM100WT	**Factory Assembled & Tested for AM Band**	**$134.95**
PWR25	**12VAC Power Adapter**	**$9.95**

Speech Scrambler & Descrambler

Wired & Tested | KIT

- ✔ Full duplex operation allows scrambling and descrambling at the same time
- ✔ Bypass mode provides quick change from direct audio to descramble

SUPER HOBBY SALE Expires 6/30/03

Decode That Garbled Gibberish!

Communicate in total privacy over your radio! This is the popular SS70A descrambler/scrambler that you've read about in all the Scanner and Electronic magazines. The technology used within the unit is known as speech inversion which is compatible with many police department systems; hook it up to your scanner speaker terminals and you're in business. (However, always be sure to check with your local authorities to ensure that you're not straying into any unlawful communications reception.) The SS70A is full duplex in operation - you can scramble and unscramble at the same time. Easily configured for any use! Easy to build since all complex circuitry is contained in a custom ASIC chip which provides clear, clean audio. Powered by 9 to 15VDC, with 3.5mm mini phone type input/output jacks. Our custom matching case set adds a super nice professional look to your kit. Optional case size: 5"W x 1½"H x 5¼"D. Available in money saving kit form or fully wired and tested with case, ready to go!

SS70A	Speech Scrambler/Descrambler Kit	$34.95 ~~$44.95~~
CSS	Matching Case & Knob Set for SS70A	$14.95
SS70AWT	Factory Assembled & Tested SS70A with Case	$69.95 ~~$89.95~~
AC125	110VAC Power Adapter	$9.95

Light Beam Communicator

KIT

Send Your Audio Over A Beam Of Light!

- ✔ Send your voice over light - even through windows!
- ✔ 30' to ¼ mile range!
- ✔ Receiver drives a speaker or earphone!

Transmits a modulated infrared light beam up to 30 feet without lenses, up to ¼ mile using simple lenses. Since the beam is modulated with a 30 KHz carrier (like AM radio) there is no effect from 60 Hz hum that is produced by indoor lighting. Easily transmits through windows - ideal for 'bugs' or listening to IR television remote controls. The transmitter can use any type of mike and is very sensitive. The receiver employs an IR PIN diode detector and there is enough power to drive any loudspeaker or earphone. The PC board is cleverly 'scored' so you can easily separate the Transmit and Receive sections so they can be used individually to transmit at one location and receive at another. Units run on 9 to 12 VDC, and will use standard 9VDC battery. Don't forget our slick matching case set with red IR end panel.

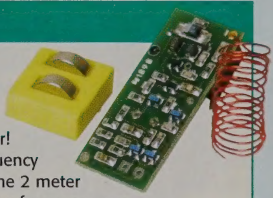
LB56	Light Beam Communicator Kit	$24.95
CLB	Matching Case & Knob Set for LB56	$14.95

Model Rocket Tracking and Telemetry Transmitter

KIT

- ✔ Easily track your rocket using a scanner receiver!
- ✔ Crystal controlled - no frequency drift!
- ✔ FM transmission!
- ✔ Subminiature SMT construction to fit any application!

Wired & Tested



Super Stable, Crystal Controlled

The sky's the limit for this super stable, drift free transmitter! Most low cost transmitters are tunable and subject to frequency drift when subjected to temperature variations and vibration, etc. The MR6 frequency is set by a crystal to a frequency in the 2 meter Ham band of 146.535 MHz, easily picked up on any scanner radio or 2 meter rig. Changing the crystal allows you to change frequency anywhere in the 140 to 160 MHz range, and crystals cost only five or six dollars. The telemetry/data input on the MR6 will accept any audio frequency telemetry source from your application's sensors. Transmission range is approximately ¼ mile line of site. The MR6 uses the latest in SMT surface mount technology and parts, so if you want to learn more about SMT, this is the kit for you! Don't be afraid of losing those small parts, we even include a few extras just in case you sneeze and lose a part! Power is supplied by 3 volt Lithium camera battery or a pair of watch batteries which are included.

MR6	Model Rocket Tracking Transmitter Kit	$44.95
MR6WT	Factory Assembled & Tested MR6	$79.95

Stereo Headphone Amplifier

Wired & Tested | KIT

No Headphone Jack? No Problem!

- ✔ Use with CD players, tuners, mixers
- ✔ Great as a basic preamp for any line level signal

How many times have you wanted to listen to, or monitor, the line-level outputs from your CD player, mixer or tape deck? Most good quality gear lacks an earphone output, or if there is one, it is woefully poor quality. We developed this kit to help us listen to our mixers, reverbs, voice recorders and other audio goodies. We took a pair of LM-386 250 mW audio amplifiers, added volume controls, power supply and a handy, switchable, high-cut filter. A common ¼" stereo earphone jack is used for the output - assuring compatibility with all stereo headphones - and RCA phono jacks accept standard line level input signals. There's plenty of volume and of course, the 'Fi' is quite 'Hi'. Available in money saving kit form or fully wired and tested. Runs on 9 to 15 VDC. Optional case size: 5"W x 1½"H x 5¼"D.

SHA1	Stereo Headphone Amplifier Kit	$24.95
CSHA	Matching Case & Knob Set for SHA1	$14.95
SHA1WT	Factory Assembled & Tested SHA1 with Case & Knob Set	$64.95
AC125	110VAC Power Adapter	$9.95

KIT

Rat Blaster Varmint Repeller

Eliminate Them...Without Harm!

- ✔ Covers over 3,000 square feet
- ✔ Programmable frequencies for optimum repulsion
- ✔ Compare with units costing $150

SUPER HOBBY SALE Expires 6/30/03

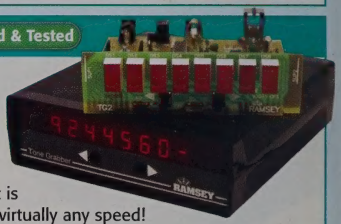
Sure, you've seen these things advertised before. Big claims and a huge price! Well we won't carry on about how you'll be able to keep Godzilla out of your garbage cans, but we will say that this unit will do a nice job of keeping the neighborhood dog, cat or deer away. Here's the story. We had a problem at the boss's house keeping the deer out of the garden. The boss, being the electronic nut he is, bought one of these things and tried it. It worked pretty well so he planned to get another for protecting the shrubs, but at $150 a box, he figured it was cheaper to build his own. Here it is, cheaper and better! We've increased the power, put in a top-quality transducer (by Motorola), better frequency range and made it affordable. Build it into your own case or use our rugged, all metal matching case set. Runs on 12 VDC or use our AC adapter. *(Hum-m-m, I wonder if this will work on kids!)*

RB1	**Rat Blaster Rodent and Animal Repeller Kit**	**$49.95** ~~$59.95~~
CRB	**Matching Case & Knob Set for RB1**	**$29.95**
AC125	**110VAC Power Adapter**	**$9.95**

Tone Grabber Touch-Tone Reader

KIT Wired & Tested

- ✔ Built-in RJ11 phone jack for easy hook-up and line monitoring
- ✔ Super fast-capture numbers off the radio, repeater, phone line, etc.
- ✔ Big, bold 8-digit display with automatic insertion of dashes between number groups



Grab Those Numbers Right Off The Air!

Dialed phone numbers, repeater codes, control codes, anywhere touch-tones are used, your TG2 will decode and store any DTMF tone it hears. A simple hook-up to any radio speaker or phone line is all that is required. Since the TG2 uses a central office quality decoder and a FLASH microprocessor, it will decode digits at virtually any speed! The FLASH storage capability of the microprocessor means you can store 640-digit numbers for 10 years - even with the power turned off! The bright 8-digit LED display lets you scroll through the stored numbers at your leisure. To make it easy to pick out numbers or codes, a dash is inserted between any group or set of numbers that were decoded more than 3 seconds apart. Added features from its TG1 predecessor include an onboard RJ11 phone jack for easier phone line interfacing and an output latch jack offering an external trigger source when a user specified number (1 to 60 digits!) matches the monitored input! The TG2 runs on any 8 to 15 volt DC power source and is both regulated and crystal controlled for the ultimate in stability.

TG2	**Tone Grabber Touch-Tone Reader Kit**	**$64.95**
CTG2	**Matching Case & Knob Set for TG2**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**
TG2WT	**Factory Assembled & Tested TG2, With Case & Power Adapter**	**$119.95**

Lead Acid Battery Charger

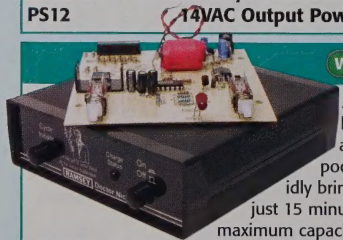
Wired & Tested KIT

- ✔ Automatic ambient temperature compensation
- ✔ Bright front panel charge indicator
- ✔ Automatically adjusts charge voltage depending on the battery status

No More "Fried" Gel Cells!

The LABC1 came to life because our shop forklift never starts! Could we have the alternator fixed so the battery would charge? Sure... but where's the fun in that! The problem made us think of a common question asked by our customers "Why am I wasting money replacing those fried Gel Cell batteries long before their expected life span!" Thus the LABC1 was born. The kit features fully automatic temperature compensation and automatic voltage level adjustment to avoid the dreaded "Over-Charging" scenario often found with other chargers! Whether you're charging your hobby kits' Gel-Cell or topping off the 12 Volt battery on your lawn mower, it's a simple two wire hook-up and walk away! When the battery comes to a full charge, the LABC1 switches into 'Float Charger' mode keeping your battery ready for use at its optimal level. To start charging your lead acid batteries the right way and avoid costly replacements, try the LABC1! Requires 14VAC@2A, order the PS12 power supply below.

LABC1	**Lead Acid Battery Charger Kit**	**$34.95**
CLABC	**Matching Case & Knob Set for LABC1**	**$14.95**
LABC1WT	**Factory Assembled & Tested LABC1 with Case & Knob Set and PS1 Power Adapter**	**$89.95**
PS12	**14VAC Output Power Adapter**	**$19.95**



Wired & Tested KIT

Dr. NiCad Battery Conditioner-Charger

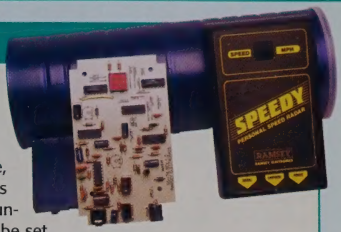
- ✔ Unique discharge before charge circuitry eliminates "memory effect"
- ✔ Safety first circuit, with built-in timers and voltage sensors, prevents battery damage

Advanced circuitry has optimized discharge-before-charge to eliminate memory effect and to condition batteries that have been poorly cared for in the past. Quick charge rapidly brings battery to full charge in less than 1 hour; just 15 minutes for some types! And "top-off" charge mode squeezes every last bit of energy into each cell for the absolute maximum capacity. Switch-mode regulator controls constant current charge while being monitored by a negative delta-V system that cuts off the fast charge at the exact point of full charge...batteries are charged, not cooked! Runs on 12 to 15 VDC at up to 1.5 A.

DN1	**Dr. NiCad Battery Conditioner and Fast Charger Kit**	**$39.95**
CDN	**Matching Case & Knob Set for DN1**	**$14.95**
DN1WT	**Factory Assembled & Tested DN1, with Matching Case and Knob Set**	**$79.95**

Speedy Personal Speed Radar Gun

KIT



- ✔ Direct readout in miles/hour, kilometers/hour or feet/second
- ✔ 1/8 mile range for average car-sized object
- ✔ Earphone output to hear actual Doppler shift
- ✔ The nation's #1 science fair project!

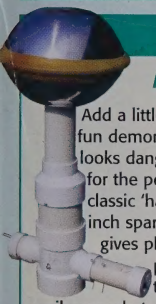
YOU Be The Cop! How Fast Was He Really Going??

Here's a kit that's not only tons of fun for everyone, but useful too! This low cost microwave radar uses the same principle found in police units costing thousands more. You'll turn heads when you clock cars, planes, runners, boats, horses, bikes, races or virtually anything that moves. Speed readout is on two LED displays which can be set accurately (better than 1%) to show MPH, kilometers-per-hour, or even feet-per-second. An earphone output allows you to actually hear the Doppler frequency shift of moving objects - the theory upon which all radars operate. Uses two 13 oz. coffee or juice cans for antenna (not included)... so start drinking! Antenna unit can be remoted up to 300 feet away. The SG7 is easy and informative to build. Our detailed manual not only carefully guides you to a finished unit, but tells you the hows and whys of Doppler radar. Even though the kit employs microwave circuitry, no exotic tuning is needed. All critical sections are PCB stripline and calibration is as easy as pointing the SG7 at a fluorescent lamp! Your Speedy kit includes a deluxe black ABS plastic case with SPEEDY graphics for a neat professional look. Operates on 12 VDC. Electronics case: 3 5/8" x 5 3/4" x 1 1/8".

SG7	**Speedy Personal Speed Radar Gun Kit** *(Price Reduced, was $99.95! Save $40 and Learn Radar!)*	**$59.95**
AC125	**110VAC Power Adapter**	**$9.95**

Van DeGraff Generator

KIT



- ✔ Produces up to 250,000 volts!
- ✔ Operates from 12 volt AC power supply that's included
- ✔ Manual includes many fascinating experiments
- ✔ You've seen these at the Science Museum and in Monster Movies!

Bring Out The Mad Scientist In You!

Add a little spark and zip to your life! Create your own lightning and have fun demonstrating all the effects of high voltage. Our Van DeGraff generator looks dangerous but is perfectly safe and is an ideal educational kit designed for the person with an interest in science and high voltage. Perform the classic 'hair raising' demonstration where your hair will literally stand on end! Turn out the lights and amaze everyone by safely drawing up to six inch sparks right to your hand! This easy to assemble kit is capable of producing up to 250,000 volts safely and quickly. The informative manual gives plenty of insight on high voltage theory and lots of interesting experiments to try out for yourself. Cleverly constructed from precut PVC pipe, you'll find this project very durable, easy to assemble, and above all, fascinating for the beginner or experienced hobbyist. Perfect for the classroom or science fair, this kit is easily disassembled and reassembled to show the components of its operation... so students can easily see what makes it "tick". Everything is included to get up and running - and experimenting. DC operated motor runs quietly and efficiently from the included 12 VAC plug-in wall adapter. Size: 13" x 24" x 10½".

VG1	**Van DeGraff Generator Kit**	**$99.95**

Stepper Motor Driver

KIT

- ✔ Controls direction, step size, and power to the motor
- ✔ Output drives 5 to 15 volts
- ✔ Uses Motorola Stepper Motor driver IC chip

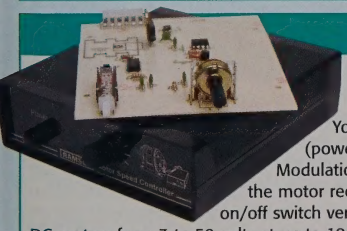
Finally...A Controller For All Those Surplus Motors!

The motors are top quality, but how the heck do you drive them without shelling out a fortune? Easy, with the Ramsey Super-Stepper! Build an accurate positioner, X-Y controller, plotter or even a Robot! The Super-Stepper will drive almost any stepper from 5 to 15 volts. You'll be able to control direction, speed, step size (rotational increment), and even power-down the motor after rotating it. An on-board clock generator is provided for easy hook-up-and-go operation or you can externally drive the kit for more exotic control. We give complete details and ideas for additional uses. Put those versatile, first rate (and cheap!) motors to work with this exciting kit. Add our matching case set for a neat, professional assembly. Operates on 5 to 15 VDC. Optional case size 5"W x 1½"H x 5¼"D.

SMD1	**Stepper Motor Driver Kit**	**$29.95**
CSMD	**Matching Case & Knob Set for SMD1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

DC Motor Speed Control

KIT



- ✔ Real pulse width modulation for accurate, stable motor control
- ✔ Controls DC motors from 3 to 50 volts - up to 10 Amps!

Full Power...Any Speed!

You see, controlling a DC motor's speed is not as easy as varying its supply voltage. The motor loses torque (power) as the voltage is lowered and finally stops rotating. The MSC1 uses a technique known as "Pulse Width Modulation" - PWM to control speed. This is the same system used on electric cranes, buses and subway cars. With PWM, the motor receives full voltage whenever energized - however, the duration of the voltage changes; it's sort of like flipping an on/off switch very rapidly! The motor rotates smoothly and with full power - no matter what the speed. The MSC1 will control DC motors from 3 to 50 volts at up to 10 amps! Complete instructions detail how the PWM circuitry operates and some hook-up ideas. Assembly takes only an hour or two. Kit operates on 9 to 12 VDC and controls motor supply of 3 to 50 volts. Add our snazzy matching case set for a finished look: size 5"W x 1½"H x 5¼"D. *(To our friend that tried to use this to control 480V/100A industrial motors...sorry about the melted case!)*

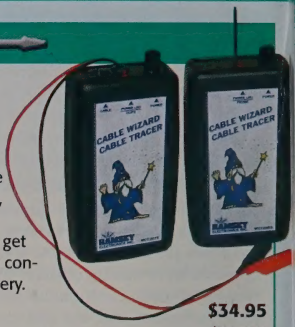
MSC1	**DC Motor Speed Control Kit**	**$29.95**
CMSC	**Matching Case & Knob Set for MSC1**	**$14.95**

Cable Wizard Cable Tester

Wired & Tested KIT

- ✔ Locate and identify any cable from telephone pairs, ethernet, coax or even your doorbell!
- ✔ Find that ONE cable in the bundle QUICK!

Which Cable Is It? NOW You Know!



Did you ever have to identify the "other end" of that cable? Well up to now you had to ohm it out, cable by cable. Now with the Cable Wizard you can quickly identify that cable without even touching the other end! Simply connect the Wizard to the end of the cable you're working with. Then use the Wizard receiver to sniff out the other end of the cable, whether it's close to you...or across an entire building. The circuit sends out a pulsating signal down the cable which is heard in the receiver when you're close to the cable. All you have to do is just hold the probe near the cable, it doesn't get much simpler than that! The transmitter is equipped with a standard RJ45 telco connector for standard 2,4,6 and 8 pair connectors and insulated clip-on leads. WCT20 includes both transmitter and receiver units. Runs on a standard 9VDC battery.

WCT20	**Wireless Cable Tracer Kit**	**$34.95**
CWCT	**Matching Case Set for Transmitter & Receiver**	**$29.95**
WCT20WT	**Factory Assembled & Tested WCT20**	**$89.95**

PICPRO Pic Chip Programmer

KIT

Make Your Next Project Microprocessor Controlled!

- ✔ Programs PIC 16C84, F83, F84 microcontrollers
- ✔ Easy hookup-connects to your computer parallel port
- ✔ Includes a simple first project to test your programmer
- ✔ Download Free PICPRO software

You've seen all the super neat projects using the popular PIC series of microcontrollers. Here's a really easy to use programmer to get you up and running fast! PICPRO is our new programmer for the PIC16C84, PIC16F84, and PIC16F83 microcontrollers made by Microchip, Inc. These chips are three of the more popular PIC microcontrollers, whose special feature is that they use flash memory so no UV eraser is needed. They are also programmed by a serial data protocol, making the programmer circuit simple, easy to understand, and use. What does all this mean to you? It's a breeze! The PICPRO software required to operate the programmer includes editor software, run software, assembler software, and programmer software. All of these, as well as updates, are available on the Ramsey Electronics website. PICPRO is based on NOPPP, a PIC programmer designed by Michael Covington, and featured in Electronics Now, September 1998. Includes the matching case and knob set and AC power supply. Start programming those powerful microcontrollers now!

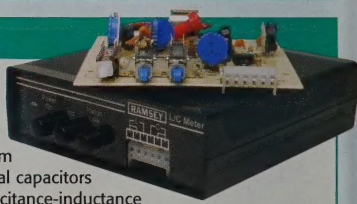
PIC1	**PICPRO Pic Chip Programmer Kit**	**$59.95**

E-Z Check Capacitance Inductance Meter

KIT

- ✔ Connects to any digital multimeter for display
- ✔ Handy push-in test connector for unknown components
- ✔ Inductance: 10 µH to 10 mH, Capacitance: 2 pF to 2.0 µF

Verify And Measure Values In Seconds!

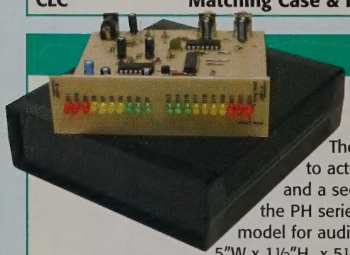


How many times have you wished you could simply and easily check a capacitor value or select an inductor from an unknown assortment? With the growing popularity of active filters and switching power supplies using critical capacitors and inductors, no shop should be without a reliable and convenient way to measure these parts. The LC1 capacitance-inductance meter hooks up to any digital multimeter and will allow you to measure inductors from 10 µH all the way up to 10 mH, and capacitors from 2 pF to 2.0 µF. Components to be measured are easily connected to the LC1 through the handy push-in test connector. Our detailed assembly manual guides you to a properly working finished kit and also provides you with ideas on proper capacitor and inductor selection for various circuits. Included with your kit are calibration components to assure proper accuracy of your meter. Uses all CMOS circuitry and is powered by a common 9 volt battery (not included). For a finished, professional look, as well as handy package, add our nifty matching case set. Optional case size: 5"W x 1½"H x 5¼"D.

LC1	**Capacitance-Inductance Meter Kit**	**$39.95**
CLC	**Matching Case & Knob Set for LC1**	**$14.95**

Peak Hold LED Bargraph Meters

KIT



Fast Response PLUS Hold!

- ✔ Linear, log, or semi-log response scales
- ✔ Perfect for audio monitoring

The PH14 series of LED bargraphs capture peak signals with kick-ass results! You can consider these bargraph units to actually be two complete LED bargraphs in one! There is the standard 10 segment bargraph with quick response, and a second set of circuitry expressly designed to catch the peaks and hold them for easy display. We offer 3 models of the PH series bargraphs: the PH14 Linear display for voltage indication and general use, the PH15 Logarithmic 3 dB/step model for audio and RF power displays and the PH16 Semi-Logarithmic model, ideal for audio VU meters. Optional case size: 5"W x 1½"H x 5¼"D.

PH14	**Linear Peak Hold Bargraph Meter Kit**	**$29.95**
PH15	**Log Peak Hold Bargraph Meter Kit**	**$29.95**
PH16	**Semi-Logarithmic Peak Hold Bargraph Meter Kit**	**$29.95**
CPH	**Matching Case & Knob Set for PH Series Meters**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

Microwave Motion Detector

- ✔ Great introduction to microwave basics
- ✔ Ideal for home alarms

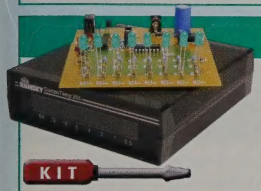
Don't Cook With Them... Detect Motion!

KIT

This unit sends out a microwave signal and looks for a return; a moving object will reflect back some microwave energy and the kit detects it. Since microwaves (no, you won't get cooked or burned by them!) are used - heat, light, sound or vibration will not affect the sensor. This makes it ideal for car and home alarms, outdoor and garage light operators, animal in-your-garbage alarms, and tons more ideas limited only by your imagination. The MD3 is a great introduction to the basic principles of our 'Speedy' Personal Speed Radar and you can use it to investigate the properties of microwaves. Kit includes detailed instructions, theory of operation and lots of applications and hook-ups. Runs on 9 to 15 VDC. For a rugged and attractive package, choose our matching case and knob set. Case size: 5"W x 1½"H x 5¼"D.

MD3	**Microwave Motion Detector Kit**	**$29.95**
CMD	**Matching Case & Knob Set for MD3**	**$14.95**

Binary Thermometer



KIT

- ✔ Accurately read temperature from 0 - 125 degrees Celsius
- ✔ Eight bright LEDs show temp in binary fashion
- ✔ Watch the conversion occur!

CompuTemp...Watch Binary conversion!

The CompuTemp is a return of a classic kit that Ramsey developed and sold back in the 70's. We decided that this kit was too interesting to be left in the archives and restored it to our ranks of "neat" kits! It is slightly enhanced over the original, now being able to display Celsius as well as Fahrenheit. Watch the mesmerizing display as the LEDs count up to the current temperature in binary, then hold the final temperature before starting over. A great conversation piece as well as an educational experience! Learn how to count in binary, as well as how analog to digital converters work!

CT255	**CompuTemp Binary Thermometer Kit**	**$34.95**
CCT	**Matching Case & Knob Set for CT255**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

Digital Voice Storage

KIT

Wired & Tested

- ✔ Endless tape loop playback without the tape!
- ✔ 8 full minutes of pure digital audio storage time
- ✔ Mic & line level inputs

This kit combines a sweet new digital recording chip and a microprocessor to provide eight full minutes of high quality digital recording with "endless loop" playback capabilities. Then we added an on-board high sensitivity electret condenser microphone to record your announcements on the spot and an audio amplifier with a front panel volume control to play back your announcements directly to an external speaker. Features dual line level mono outputs for connection to left & right stereo inputs on amplifiers and transmitters, line level input, and 2.5mm miniature phone speaker output. Perfect for everything from advertising real estate to repeating monotonous instructions at a swap meet! Runs on 12VDC.

BS1	**Bullshooter Voice Storage Recorder Kit**	**$59.95**
CBS	**Matching Case & Knob Set for BS1**	**$14.95**
BS1WT	**Factory Assembled & Tested BS1**	**$99.95**
AC125	**110VAC Power Adapter**	**$9.95**

Dazzling Music Lights

- ✔ Control 3 channels X 300 watts of lights
- ✔ Lights flicker to music: Low, Mid, High
- ✔ Runs on 120 VAC

KIT

A Dazzling Display Of Light!

See music come alive! Three different lights flicker in time to music, one light each for low, mid and high frequencies. Each is individually adjustable, runs on 120 VAC and controls up to 300 watts per channel - enough to drive spotlights, Christmas lights, mood lights, strip lights, and more! Speaking of mood light, this will really crank up your next party! So create your light show just like the rock concerts and Vegas shows in your own home. Optional case size 5"W x 1½"H x 5¼"D.

ML1	**Music Lights Kit**	**$29.95**
CML	**Matching Case & Knob Set for ML1**	**$14.95**

Phone Recorder Controller

- ✔ Undetectable on phone line
- ✔ Needs no battery, operates on telephone line power

Automatic Control!

Wired & Tested

KIT

Keep a record of all your telephone calls - automatically. The TT1 connects anywhere on the phone line and will control any battery powered tape recorder that has standard microphone and control jacks. The recorder automatically starts and stops whenever the phone is used and records both sides of the conversation with excellent fidelity. Super easy one hour assembly. Optional case size: 5"W x 1½"H x 5¼"D. Also available factory assembled & tested.

TT1	**Tattle-Tale Recorder Controller Kit**	**$24.95**
CTT	**Matching Case & Knob Set for TT1**	**$14.95**
TT1WT	**Factory Assembled & Tested TT1**	**$59.95**

Super Speakerphone

- ✔ Needs no battery when connected to phone line
- ✔ Can also be used as hands free intercom!
- ✔ Effective from anywhere in the room

KIT

High Performance Motorola Chip!

The Ramsey speakerphone kit efficiently replaces a cluster of add-on phone gadgets to give you what you really want in the shop or office: the ability to answer incoming calls and continue what you're doing while talking from anywhere in the room. We designed this device because we needed such units at work, so the technicians could answer a telephone question while checking a manual or taking a voltage reading. Well, quite a few of our prototypes found their way home and pretty soon we realized that this would make a great kit. Super for family and conference calling. Or, as we discovered here, connect two together for a completely hands-free intercom - ideal for linking the shop with the rest of the house. Imagine how handy it would be to simply answer back from anywhere in your shop - without stopping what you're doing. It's like linking two rooms together into one. The real beauty of this kit is: 1- it needs no battery when connected to the phone line and 2 - it can be simply connected to the phone line by itself without using an extra telephone. For intercom use, a regular 9 volt battery powers the unit. Includes built-in electret microphone, just add your choice of speaker. To really make your kit look professional, add our custom matching case and knob set.

SP1	**Speaker Phone Kit**	**$34.95**
CSP	**Matching Case & Knob Set for SP1**	**$14.95**

WWV "Atomic" Clocks

Wired & Tested

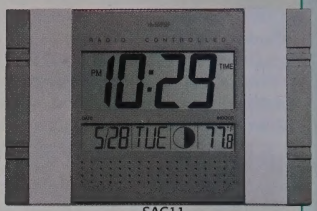
- ✔ WWVB time standard with transmission check!
- ✔ Day, date, month and time to the second, 12/24 hour format
- ✔ Never set your clock again...ever!
- ✔ Wall or desk mount

Be On Time... To The Second!

SAC10

We looked and looked for a really nice "Atomic" clock. Needless to say, besides the general popularity of having an EXACT time standard clock, our Amateur Radio and broadcast FM customers have yet another need. Not only do they need the time to the second, but they need it in UCT or GMT time. These clocks provide time zones from GMT all the way to -12GMT plus U.S. time zones have a three letter ID!

These clocks feature dual LCD screens to display time, as well as day, date, indoor temperature and moon phases (8 phases). For our International friends, day information can be displayed in English, French, or Spanish, and temperature can be displayed in degrees F or C! All clocks are selectable for 12 or 24 hour format, and include a time alarm with snooze! *(Something I need while I'm preparing this catalog...snooze button!)*



SAC11

SAC10	**Digital Atomic Clock, Mahogany, Factory Assembled & Tested**	**$49.95**
SAC11	**Digital Atomic Clock, Gray Plastic, Factory Assembled & Tested**	**$39.95**

Includes *Wireless* Outdoor Temperature!

The Best Of Both Worlds!

433 MHz Remote Transmitter

Wow, check this one out! Take our SACL10 with the Mahogany front, and then add remote outdoor temperature! That's right, you have both indoor and outdoor temperature displayed right in the 2nd LCD display. Plus the outdoor temperature sensor is wireless, using 433 MHz technology, so you don't have to run any wires to it! Just put the battery powered remote sensor anywhere outside and it constantly transmits the temperature data directly to your clock! Includes all the features of the clocks above except the moon phase (had to make room for the outdoor temperature! If you're look for a serious Atomic Clock, this is the one!

SAC12

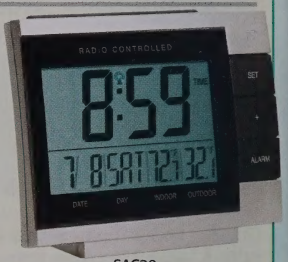
SAC12	**Digital Atomic Clock, Mahogany, Wireless Outdoor Thermometer**	**$59.95**

PUT THIS ONE ON YOUR NIGHTSTAND!

Wake Up To The Exact Time & Outdoor Temperature!

433 MHz Remote Transmitter

This one's my personal favorite! How many times has your alarm gone off in the morning, you roll over, bash the snooze button and hope to never hear it again! Unfortunately it does go off, because we all have to get up *(and in my case, write this catalog copy)!* So then you lie there, wondering, what you should wear, is it warm or cold out. The SACL12 solves all those problems! It provides the same Atomic Clock features as our clocks above, PLUS it features wireless remote temperature display, PLUS, it's a small nightstand size alarm clock, all in one! All the advantages of a WWVB time standard clock, plus indoor and outdoor temperatures on an Electro-Luminiscent display! *(The only problem I have with mine is that I have to get up when it goes off!)*



SAC20

SAC20	**Digital Atomic Alarm Clock With Indoor/Outdoor Temperature**	**$49.95**

Wired & Tested

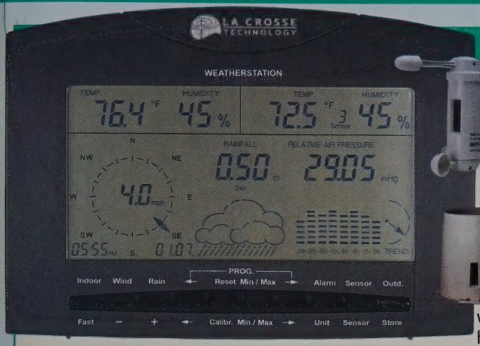
WWV "Atomic" Wristwatches

Never Set Your Watch Again!

- ✔ Day, date, month, and time to the second!
- ✔ WWVB transmission checking
- ✔ Internal time memory
- ✔ Water resistant
- ✔ Lithium battery included

Atomic wall clocks, Atomic desk clocks, Atomic alarm clocks...but Atomic Wristwatches? You bet! No larger than a standard digital watch, yet this one is controlled by the WWVB time standard! You will never have to set your watch again! Next time someone asks you what the exact time is, you can tell them. Great for broadcasters who operate by the clock! Multifunction design provides automatic day, date and month as well as time to the second. Even provides automatic switching to Daylight Savings Time if desired. Features WWV transmission checking, low battery indicator, and internal time memory. Available in five attractive designs. (*This thing keeps better time than my Rolex...and it's even a real one! Now THAT'S embarrassing!*)

RSAW10T	**Digital Multifunction Atomic Wristwatch, Titanium Color**	**$59.95**
RSAW10B	**Digital Multifunction Atomic Wristwatch, Black**	**$59.95**
RSAW10L	**Digital Multifunction Atomic Wristwatch, Round, Leather Strap**	**$49.95**
RSAW10R	**Digital Multifunction Atomic Wristwatch, Round Sport, Rubber Strap**	**$49.95**
RSAW10S	**Digital Multifunction Atomic Wristwatch, Stainless**	**$59.95**



Professional Wireless Weather Center

✔ Professional features
✔ 433 MHz wireless installation
✔ Solar powered sensors and transmitters!

Wired & Tested

Check Out The Cool PC and Web Interface At www.ramseykits.com

The latest craze is to have your own personal weather center. Maybe that's because the guy on the TV doesn't seem to have a window in his studio to see that it IS raining out, who knows! If you want ***COMPLETE*** and ***PROFESSIONAL*** weather information at your fingertips, this is for you. First of all, it's completely wireless! That's right, no involved multiconductor wiring to a boatload of sensors outside your house. I remember buying my first Heathkit weather station. It was great, but I had to install all the sensors up on the roof, and run cable directly to the station. Not an easy task. Those days are over! Simply mount the wind, temperature, and rain sensors and they communicate and interact directly with your main receiver without any wires! Data is transmitted at 433 MHz, and the outdoor transmitters are even solar powered! Attractive receiver/display can be wall or desk mounted, and measures 8½" W x 6" H x 1 1/8" D. Order the optional PC interface receiver for a direct connection to your computer.

- ✔ *Indoor temperature and humidity with atmospheric pressure as well as 8 further temperatures with relevant humidity*
- ✔ *Up to 9 different, combined humidity/temperature measuring locations; two of them are shown on the display at the same time*
- ✔ *Temperature selectable in degrees Celsius or Fahrenheit*
- ✔ *Calculation and indication of the Windchill equivalent temperature*
- ✔ *The dewpoints are calculated separately for each of the nine temperature/humidity sensors*
- ✔ *Measurement of atmospheric pressure selectable in in Hg or hPa*
- ✔ *Pressure trend-chart (steady, rising, rising strongly, falling, falling strongly)*
- ✔ *Graphic indication of pressure changes during the last 24 hours*
- ✔ *Illustrated weather forecast symbols (sunny, partly cloudy, cloudy, rainy)*
- ✔ *Measurement of wind speed in mph, km/h, mis, knots or Beaufort*
- ✔ *Graphic wind speed and direction indicator*
- ✔ *Integrated radio controlled WWV clock for ultimate accuracy*
- ✔ *Storage of the minimum and maximum results of all sensors with time and date stamp, along with wind speed and direction*
- ✔ *Rain gauge*
- ✔ *User settable alarm for different weather conditions, for example, in case of frost, storm, pressure changes or temperature fluctuations*

WS5000	**Professional Wireless Weather Center, Including All Sensors, Factory Assembled & Tested**	**$499.95**
WS5000PC	**PC Interface for WS5000 (Win95/98/2K)**	**$149.95**
WS5000T	**Extra Indoor Wireless Temperature/Humidity Transmitter**	**$39.95**
WS5000H	**Extra Outdoor Wireless Temperature/Humidity Transmitter**	**$76.95**

Wireless Weather Station & "Atomic" Clock

Wired & Tested

✔ Combined weather station and WWV controlled clock
✔ Ultra simple wireless operation!
✔ Easy to set up, makes a great gift!

The Weather Outside... AND The Exact Time!

What a great dual function unit! You get a complete weather reporting and forecasting station, and a WWV controlled "atomic" clock, all in one unit. Now you can know the exact weather AND the time! Just like its big brother above, the WS2000 uses 433 MHz wireless technology for the weather sensors. That means no wires to run! The radio controlled clock provide date, month, and time accurate to the second! You can't go wrong with the WS2000!

- ✔ *Indoor temperature and humidity*
- ✔ *Wireless indoor/outdoor temperature transmitter with LED display*
- ✔ *Minimum & maximum temperature records with time and date stamp*
- ✔ *Weather forecast icons with pressure trend indicator*
- ✔ *WWV controlled clock for accuracy to the second*
- ✔ *Display measures 4 3/4" W x 6 3/4" H x 1" D*
- ✔ *Display and transmitter require (2) AAA batteries each, not included*

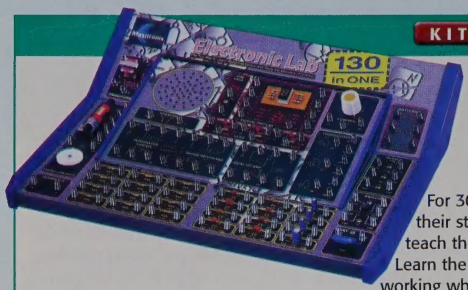
WS2000	**Wireless Weather Station & Atomic Clock, Factory Assembled & Tested**	**$99.95**

WIN! **Monthly!**

Register with your E-Mail address to win MONTHLY drawings for equipment valued up to $300 and more! Each month we award a value package to one lucky person!

Next month...IT COULD BE YOU!

www.ramseykits.com/win



KIT

Super-Fun 130 In 1 Electronic Lab

Start A Great Hobby In Electronics!

- ✔ No prior knowledge of electronics needed!
- ✔ Solderless connections for safe assembly
- ✔ Build 130 different circuits, and see them work!
- ✔ Includes a comprehensive instruction & theory manual written for the youngest novice to understand!

For 30 years, Ramsey has provided educational hobby kits giving thousands and thousands of kids their start in electronics. We've searched and searched for an Electronics Lab specifically designed to teach the youngest experimenter the fun and excitement of electronics. The PL130 does just that! Learn the basics and theory of electronics the fun way, while building 130+ projects that you actually see working when you're done! The detailed 162 page instruction manual covers the hows and whys of every circuit, theory, parts identification, and description. We've looked at a lot of these kits, and have turned them down because of the documentation. This one is a winner!

LOTS OF PROJECTS? YOU BET!

Electric Woodpecker
The Chirping Bird
Electronic Cat
Sonic Fish Caller
Machine Gun Pulse Oscillator
Electronic Motorcycle
Two-Tone Patrol Car Siren
Electronic Siren
Electronic Metronome
Electronic Grandfather Clock
Light-Controlled Electronic Harp
Horror Movie Sound Effects
Strobe Light
Rapid LED Display Switching (Persistence Vision Test)
Capacitor Discharge/High Voltage Generator
Capacitors in Series and Parallel
Resistors in Series and Parallel
Light Dimmer
Transistor Switcher
Transistor Circuit Action
Sound Amplifier
Flip-Flop Multivibrator with LED Display
Seven-Segment LED Digital Display Circuit
Basic LED Display
Transistor Control Switching of the LED Display
Transistor, CDS Cell and LED Display Circuit
Diode-Transistor Logic AND with LED Display
DTL OR Circuit with LED Display
DTL NAND Circuit with LED Display
DTL Exclusive OR Circuit
Transistor NOR Circuit with LED Display
Transistor Flip-Flop Circuit
Transistor Toggle Flip-Flop
Transistor-Transistor Logic Buffer Gate
TTL Inverter Gate
TTL AND Gate
TTL OR Gate
TTL Exclusive OR Gate
TTL NOR Gate
TTL Three-Input AND Gate
TTL AND Enable Circuit
TTL OR Enable Circuit
TTL NAND Enable Circuit
TTL R-S Flip-Flop
Toggle Flip-Flop Circuit Made from NAND Gate
TTL Line Selector
TTL Data Selector
TTL Astable Multivibrator
TTL Tone Generator
Winking LEDs
A One-Shot TTL
Transistor Timer with TTL
Buzzin' LED
Son of Buzzin' LED
Set/Reset Buzzer 1
Set/Reset Buzzer 2
Sound Machine
Big Mouth
Shot in the Dark
Variable R-C Oscillator
Oscillator with Turn-Off Delay
Temperature-Sensitive Audio Oscillator
Two-Transistor, Directly Connected Oscillator
Push/Pull Square Wave Oscillator
Pencil Lead Organ
LED Strobe Light
Electronic Organ
Daylight Early Bird
Intermittent Alarm Generator
Comparator
Basic Increase in DC Voltage
Constant-Current Source
Integrating Circuit
Schmitt Trigger Circuit
Noninverting Two-Power Supply Amplifier
Inverting Two-Power Supply Amplifier
Noninverting Single-Power Supply Amplifier
Two-Power Supply Differential Amplifier
Tone Mixing Amplifier
Power Amplifier Using Operational Amplifier
Voltage Controlled Oscillator Circuit
Operational Amplifier Buzzer
Burglar Alarm
Hand-Operated Sweep Oscillator
Falling Bomb Sound
Emergency Siren
First Aid Siren
Musical Tempo Generator
Operational Amplifier Winking LED
LED Flashing Light
Two-LED Winker
One Shot Light
LED Initials
Wake Up Siren
Voice-Activated LED
Logic Tester
Alternating Current Sound
Light Control Sound Circuit
Sound Alarm Circuit
Study Timer
Kitchen Timer
Three-Input AND Gate Using Operational Amplifier
Voice Level Meter
Power-On Reset Circuit
Delayed Timer
Pulse Frequency Doubler
White Noise Generator
DC-DC Convertor with Operational Amplifier
Code Practice Oscillator with Tone Control
Crystal Set Radio (Simple-Diode Radio)
Two-Transistor Radio
Wireless Code Transmitter
AM Radio Station
Operational Amplifier Radio
Aural Continuity Tester
Conductivity Tester
Transistor Checker
Sinewave Audio Oscillator
Low Distortion Sinewave Oscillator
Twin-T Audio Oscillator
Pulse Oscillator Tone Generator
Audio Signal Tracer
Radio Frequency Signal Tracer
Square Wave Audio Oscillator
Sawtooth Wave Oscillator
Rain Detector
Water Level Buzzer with Operational Amplifier
Metal Detector
Water Level Alarm
Three-Step Water Level Indicator

This Lab is a perfect start to a great new hobby in electronics, whether it's for you, your kids, or your friends. *When these came in, I took one home to my 13 year old son, and he went wild! Then he built the SWL Radio Kit (SR3, Page-33) and listened to overseas radio broadcasts for the first time. He's now asking me what surface mount technology is all about! (Sure beats him glued to the TV playing video games...except for that Electronic Cat!)*

PL130 **130 In 1 Electronics Lab With Comprehensive Learning Manual** **$39.95**

KIT

NEW!

Complete 300 In 1 Electronic Lab

- ✔ Build 300 exciting electronic projects
- ✔ Solderless connections for safe assembly
- ✔ No tools required!
- ✔ 165 page comprehensive instruction & theory manual!

300 Projects Plus The Theory!

After we introduced our PL130 lab kit, we were amazed at the customer response. Hundreds and hundreds were ordered, and re-ordered by everyone you could imagine! From parents for their kids, to grandparents for THEIR kids and grandkids! The response has been the same..."THEY LOVE IT!". We've expanded our line to include this 300 in one lab kit, and the 500 in one lab kit on page 32. Just like the PL130, this lab includes an incredible 165 page comprehensive manual covering the construction of EACH project and the theory behind it.

Includes ALL of the projects in the PL130 PLUS THE FOLLOWING:

Surprise and Fun
Light-Controlled Bird
A Transistor Radio
Sound Scooper
American Patrol Car Siren
Digital Roulette
IC Organ

Back to the Basics
Light Telegraph
Introducing the Resistor
Parallel Resistor
Meet the Diode
The LED-a Special Diode
The Electronic Gas Tank
Meet the Transistor
Transistor as switches
PNP Transistor Switch
NPN Transistor Switch
Delay Light
Night Light
Electronic Timer
Capital Letter Display
Small Letter Display
Number Display

Electronic "Building Blocks"
An Inverter Circuit
Meet the OR Gate
Introducing the AND Gate
Using the NOR Gate
Meet the NAND Gate
How a Multivibrator Works
A "One-Shot" Multivibrator
An R-S Flip Flop
Meet the Oscillator
Changing Oscillation with Capacitor
Changing Oscillation with Foreign Substance
More about Oscillator
A Push-Pull Oscillator

Putting Electronics to Work
CdS Controlled Oscillator
Frequency Shift Oscillator
Motion Detector
Door Alarm
Rapid LED Display Switching
Code Practice Unit
Current Switch
Two-Tone Buzzer
Astable Multivibrator
Monostable Multivibrator
Code Practice Unit
The Noisy Light
Hearing Aid Amplifier
Light/Sound Code Practice Unit
Light Controlled Burglar Alarm
DC-DC Converter
Count Down Timer
Transistor Frequency Doubler
One Transistor Full-Wave Rectifier

Radio Circuits
"Crystal Set" Radio
"Funny Transistor" Radio
Remote Water Level Detector
IC Radio
Morse Code Transmitter
AM Transmitter
Broadcasting Organ

Sonic Zoo and Sound Factory
Plant Growth Stimulater
Electronic Woodpecker
Fish Caller
Electronic Raindrops
Machine Gun Pulse Detector
Chirping Bird
Electronic Bird
"Horror Movie" Sound Effect
Sound Machine I
Sound Machine II
Multi-Tone Siren
Digital Rhythm
Two-IC Electronic Organ

Electronic Decision-Makers
Majority Logic Gate
Electronic Coin Toss
Electronic Coin Toss II
Electronic Coin Toss III
Even or Odd
Quick Draw Game
Close-In
ESP Tester
The Light Fantastic
Shooting Game
Marching LEDs
Electronic Dice
Electronic Roulette

Operational Amplifier IC Can Do Many Things
Meet the VCO
Silicon Diode Solar Cell
Astable Multivibrator Using OP Amplifier
Pulse Generator
Experiment of Comparator
Comparator with Hysteresis
Constant Current Sources by OP Amplifier
Non-Inverting Adder
Touch Switch Using OP Amplifier
Early Bird
DC-DC Converter by OP Amplifier
Inverting Amplifier
Non-Inverting Amplifier
Differential Amplifier
Differential Output Amplifier
Power Amplifier Using OP Amplifier
Balanced Transformerless Amplifier
Three-Stage Differential Amplifier
VCO Using OP Amplifier
Voltage Controlled Amplifier
V-F Converter
F-V Converter
Sweep Generator
Multiple-Function IC Project
Sound Alarm
Photo Organ
Vibrato Organ

Introducing the Power Amplifier IC
IC Power Amplifier
IC Power Amplifier II
Oscillator Using Power Amplifier IC
CdS Controlled IC Oscillator
Phase Shift Oscillator
Intercom
A Water Service Pipe Sound
Electronic Klaxon
Wide Range Audio Frequency Oscillator

A Trip to Digital Land
Switching Circuit
RTL Inverter
RTL Buffer
RTL OR Gate
RTL AND Gate
Transistor OR Gate
Transistor AND Gate
Transistor XOR Gate
Special NAND Gate
DTL OR Gate
DTL AND Gate
DTL NOR Gate
DTL NAND Gate
DTL Exclusive OR Gate
C-MOS Inverter
C-MOS Buffer
C-MOS OR Gate
C-MOS AND Gate
C-MOS 3-Input And Gate
C-MOS NOR Gate
C-MOS 4-Input NOR Gate
C-MOS 4-Input NOR Gate II
DeMorgan's Theorem
Experiment of Threshold Voltage NAND/NOR and Transistor Switch

More Adventures in Digital Land
C-MOS XOR Gate
C-MOS NAND Enable Circuit
C-MOS AND Enable Circuit
C-MOS OR Enable Circuit
A One-Shot NAND Gate
C-MOS Line Selector
C-MOS Data Selector
C-MOS R-S Flip Flop
C-MOS Flip Flop II
Set/Reset Buzzer
Set/Reset Buzzer II
Set/Reset Buzzer III
Transistorized Toggle Flip Flop
NAND Toggle Flip Flop
J-K Toggle Flip Flop
C-MOS Astable Multivibrator
C-MOS J-K Flip Flop
C-MOS D Flip Flop
C-MOS D Flip Flop II
R-S-T Flip Flop
T Type Flip Flop
C-MOS Latch
Shift Register
Touch Switch Using NAND Gate
Half Adder
D-Latch
2-Line to 4-Line Decoder
Multiplier
Dual 2-Input Multiplexer
Two-Stage Frequency Divider

Circuits That Counts
Basic Counter
Synchronous Counter
Asynchronous Counter
Counter with Line Decoder
Divide by 4 Counter
Divide by 4 Counter with Line Decoder
How a Line Decoder Works
Multiple Counter
Binary Counter with Display
Divide by 3 Counter Display
Divide by 4 Counter Display
Up/Down Counter
Down Counter
Decade Down Counter
Decade Down Counter with Display
Presettable Counter
Hexadecimal Counter
Octal Counter
Random Access Display
Decade Counter
BCD Counter with Display
Octal Counter with Line Decoder
Octal Counter with Display
Decade Counter with Display
Decade Counter with Display II

Getting Closer to Computers
BCD to 7-Segment Decoder
Full Adder
Decimal to Binary Encoder
Binary to BCD
Octal to BCD
Hexadecimal to BCD
3-Bit Shift Register

Amusement in Digital Land
VCO by NOR Gate
Pulse-Delayed Circuit
NAND Gate Tone Generator
Transistor Timer
Noise-Signal Discriminator
Pulse Stretcher
Bidirectional Buffer
Various Inverters
Electronic Switch
Tone Burst Generator
Digital Timer
Digital Timer II
Ten Count Buzzer
Press First
Target Range
Catch the Eight
SOS Alert
Wheel of Fortune
Leapin' LEDs

Shakehands of Analog and Digital
Pulse Number Modulation Light Dimmer
Pulse Width Modulation Light Dimmer
DC-DC Converter Using the C-MOS Oscillator
Absolute Value Amplifier
Window Comparator
Digital Light Dimmer
A-D Converter
D-A Converter
Photometer with Digital Display
Surprise and Fun Revisited
Experiment of Electromagnetic Induction
Electronic Candle
Constant Current Circuit
A Phony Counter
Alphabet Flasher
Winking LEDs II
Delayed Timer II
Crossing Signal
Octave Generator
Sound Out Timer
Sound Stop
Big Mouth!
Light or Sound
Be Your Own Multivibrator
Anticipation
Set/Reset Match

Testing and Measuring Circuits
Circuit Continuity Checker
Acoustic Ohmmeter
Audio Signal Generator
Temperature-Sensitive Audio Amplifier
Water Level Detector
Battery Checker
IC Oscillator/Component Tester
Voltage Drop Alarm
Current Shut-Down Circuit
Logic Checker
Logic Checker II
Temperature Alarm
Function Generator

PL300 **300 In 1 Complete Electronics Lab With Comprehensive Learning Manual** **$64.95**

Learn Electronics The FUN Way!

With Ramsey Electronic Lab Kits

130 In One • 300 In One • 500 In One

- ✔ Build It!
- ✔ Learn It!
- ✔ Achieve It!
- ✔ Enjoy It!

KIT

NEW!

Advanced 500 In 1 Electronic Lab

- ✔ 152 starter course manual!
- ✔ 78 page advanced course manual!
- ✔ 140 page programming course manual!
- ✔ Quality hinged case construction

Advanced Learning Courses Plus 500 Separate Projects!

We went one step beyond our 300 in one lab kit! Yes, 500 in one, PLUS comprehensive learning course manuals! Build 500 exciting projects, learn schematics, build and learn both analog and digital circuits, and even get into digital programming. 500 projects, 370 pages of comprehensive course manuals, and LOTS OF FUN!

Includes ALL of the projects in the PL130 AND the PL300 PLUS THE FOLLOWING:

Back to the Basics
Capacitors in Series and Parallel

Electronic "Building Blocks"
Low Distortion Sinewave Oscillator

Putting Electronics to Work
Strobe Light
Electronic Grandfather Clock
Electronic Metronome
Twin-T Audio Oscillator
Current Switch
Shot in the Dark
Variable R-C Oscillator
Two-Tone Buzzer
Sawtooth Wave Oscillator

Radio Circuits
Wireless Code Transmitter

Sonic Zoo and Sound Factory
Two-Tone Patrol Car Siren
Pencil Lead Organ
Electronic Motorcycle
Machine Gun Pulse Detector
Electronic Siren
Electronic Cat
Electronic Organ

Electronic Decision-Makers
Majority Logic Gate
Electronic Coin Toss
Electronic Coin Toss II
Electronic Coin Toss III
Even or Odd
Quick Draw Game
Close-In
ESP Tester
The Light Fantastic
Shooting Game
Marching LEDs
Electronic Dice
Electronic Roulette

Operational Amplifier IC Can Do Many Things
Integrating Circuit
Pitch Doubling Circuit
Pitch Doubling Circuit II
Comparator
Schmitt Trigger Circuit
Delayed Timer
Pulse Frequency Doubler
Touch Switch Using OP Amplifier

Surprise and Fun Revisited
Experiment of Electromagnetic Induction
Winking LEDs
Voice Level Meter
Buzzin' LED
Son of Buzzin' LED

Testing and Measuring Circuits
Audio Signal Tracer
Metal Detector
Rain Detector
Burglar Alarm
Temperature-Sensitive Audio Amplifier

Learn Basics More
A Basic of Control Volume
Emitter Follower
Basic Operation of Zener Diode
Zener Voltage Checker
Zener Voltage Checker II
Basic Photo-Transistor Operation
Voltage Drop Circuit by Means of Diodes
Experimentation of Capacitor
Temperature Characteristic
Darlington Circuit (Touch Sensor)
Edge-Trigger Circuit
RC Type Differentiating Circuit
Switch Matrix Circuit
Memory Backup Circuit
Power on Reset Circuit
Constant-Voltage Circuit (Fixed Output)
Constant-Voltage Circuit (Variable Output)
A Rectifier Circuit by Diode Bridge
AGC Circuit Using a Single Transistor
Upper/Lower Limiter Circuit Using OP Amplifier
Window Comparator II

Amusement on Sound
Multi-Tone Siren
Digital Rhythm
Two-IC Electronic Organ
A Water Service Pipe Sound
Electronic Klaxon
Sound Machine III
Sound Wave Varying with Light Intensity
Player Organ
Sound of Passing Siren
Light Source Sensing Circuit by Sound
Electronic Piano Circuit
Whistle Generating Circuit
Space Gun
Car Horn

More Radio Circuits
Morse Code Transmitter
Broadcasting Organ
FM Transmitter (FM Wireless Microphone

To The Game World
Quiz Winner Detector
Reflex Nerve Test Game
Shooting Game II
Shot In The Dark II
Sound Quiz
Stop the Seven
High-Power Switch
"Lockout, Mr. Blackbeard!" Game
Russian Roulette
Mole Hitting Game
"Janken" Game
Ping-Pong Game

More Adventures in OP Amplifier Circuits
Voltage Controlled Amplifier
V-F Converter
F-V Converter
F-V Converter II
White Noise Generator
Sweep Generator
Multiple-Function IC Project
Sound Alarm
A Sound of Ripples
Photo Organ
Vibrato Organ

More About Oscillation
Phase Shift Oscillator
Wide Range Audio Frequency Oscillator
Sawtooth Wave Oscillator II
Three Phase Oscillator
Wien-Bridge Oscillator
Ramp Wave Generator
Digital Sine Wave Generator
Frequency-Variable Sine Wave Generator
Sine Wave Oscillator Using D-A Converter
RC Phase-Shift Oscillator
Two Sine Waves with Different Phases
One-Shot Multivibrator Using IC 555
One-Shot Multivibrator Using J-K Flip-Flop
One-Shot Multivibrator Using OP Amplifier
Shakehands of Analog and Digital
Pulse Number Modulation Light Dimmer
Pulse Width Modulation Light Dimmer
DC-DC Converter Using the C-MOS Oscillator
Photometer with Digital Display
Pulse Width Modulation Light Dimmer II
Voltmeter

Getting Closer to Computer
Full Adder
Decimal to Binary Encoder
Binary to BCD
Octal to BCD
Hexadecimal to BCD
3-Bit Shift Register
BCD-To-Decimal Decoder
More Digital Circuits
4-Input Data Selector
AND/OR Circuit Using OP Amplifier
XOR Using OP Amplifier
Time Sharing Display of LEDs
LED Lighting-Duty Varying Circuit
Using One-Shot Multivibrator
LED Blinking-Cycle Varying Circuit
Using Astable Multivibrator
LCD Static Drive Circuit
LCD Dynamic Drive Circuit
Testing LCD Display Response
LED Drive by 4 Switches
Flashing LED by Preset Number
Digital Timer (1 to 7 Minutes)
Sound Timer
Programmable Timer with Down Counter

Amusement in Electronic Circuits
Revolving Light
Photo Switch
Door Chime
Visitor Sensing Chime Using Photo-Transistor
Touch VCO
Sound Tuning Circuit
Crossing-Bell Sound Generator
Turn Indicator
Staircase Light Switching Control Circuit
Pseudo Candle Circuit
Lie Detector
Light Sensing Circuit
Automatic Lighting LED
Sound Sensing LED
Illumination Lamp
Intercom
PIP Sound Interphone
Electronic Volume
Pedestrian Signal
Time Counter
Led Display Counting Up/Down Circuit
An Electronic Pendulum
Staircase Light Switching Control Circuit II
Lamp Brightness Control Circuit
Illumination Circuit with 4-LEDs
A Simulated Car Winkers

Testing and Measuring Circuits
Battery Checker
Conductivity Tester
Transistor Checker
Three-Step Water Level Indicator
Tachometer
Battery Checker II
Digital Illuminometer

Software Projects
Light LEDs
Light On/Off LEDs
A Binary Counter-Increment Value by ADD Instruction
A Binary Counter-Decrement Value by SUB Instruction
Light LEDs Sequentially with AND Instruction
Light LEDs Sequentially with OR Instruction
Turn On and Off LEDs Sequentially with XOR Instruction
Moving LEDs Light with ROL Instruction
Moving LEDs Light with ROR Instruction
Night Rider's LEDs with ROL/ROR Instructions (1)
Night Rider's LEDs with ROL/ROR Instructions (2)
Binary Counter with INC Instruction
Binary Counter with DEC Instruction
Sound Do as Do, Re, Mi
Sound a Series of Musical Scale
Let's Input Data to Program
Hidden Key Triggers Sound and Turns All LEDs On
Stacked MOV Instructions
Changing Order of LEDs by Switch
A Musical Scale Sound by S1 Key
Arithmetic Addition of of Two Binary Values
Arithmetic Subtraction of Two Binary Values
Arithmetic Multiplication of Two Binary Values
Arithmetic Division of Two Binary Values
Displays Number 0 to 9 on 7-Segment LED (2)
Change Order of Numbers Display on 7-Segment LED (2)
Switches S1-S4 Light Hex Number On 7-Seg LED
8-Key Organ
Lighting Spade, Diamond, Heart, and Club on the LCDs Display (Basic)
Lighting Spade/Heart and Diamond/Club on the LCDs Display
Lighting Spade, Diamond, Heart, and Club by Static Drive Circuit
Lighting Spade, Diamond, Heart, and Club by 1/2 Duty-1/2 Bias Circuit
Lighting Spade/Diamond and Heart/Club by 1/2 Duty-1/2 Bias Circuit
Lighting Spade/Diamond and Heart/Club Alternately by 1/2 Duty-1/2 Bias Circuit
Lighting Spade, Diamond, Heart, and Club by 1/2 Duty-1/2 Bias Circuit
Results of Logical Operations AND, NAND, OR, and NOR
Results of Logical Operations XOR and XNOR
Results of Logical Operations AND/NAND with 4-Switch Entry
Results of Logical Operations with OR/NOR 4-Switch Entry
Results of Logical Operations with XOR/XNOR 4-Switch Entry
Logical AND/NAND Gate for Driving External Circuit
Logical OR/NOR Gate for Driving External Circuit
Logical XOR/XNOR Gate for Driving External Circuit
Find a Leading Edge of Input Pulse
Finding a Trailing Edge of Input Pulse
Finding a Leading and Trailing Edge of Input Pulse
A Pulse Stretcher
Starting a Delayed Pulse
Pulse Stretcher By Counting a Clock
Counting External Pulse To Advance Decimal Counter
Displays Number 0 To 9 on 7-Segment LED (1)
Change Order of Numbers Display on 7-Segment (2)
Counts an External Clock (1)
Counts an External Clock (2)
Counts an External Clock (3)
Counts an External Clock (4)
Counts an External Clock (5)
Counts an External Clock (6)
3-Minute Timer
Multi-Function Timer (1)
15-Minute Timer with 7-Segment Display
Multi-Function Timer (2)
Digital Organ with PHOTO-TRANSISTOR (1)
Digital Organ with PHOTO-TRANSISTOR (2)
Digital Volume Changer (1)
Digital Volume Changer (2)
Digital Volume Changer (3)
Digital Volume Changer (4)
Digital Volume Changer (5)
Illumination Controlled by PHOTO-TRANSISTOR (1)
Illumination Controlled by PHOTO-TRANSISTOR (2)
Illumination Controlled by Oscillator and PHOTO-TRANSISTOR (1)
Illumination Controlled by Oscillator and PHOTO-TRANSISTOR (2)
Illumination with Speed Control (1)
Illumination with Speed Control (2)
Sawtooth Waveform Generator
Triangular Pulse Generator
Digital Level Indicator
Digital Lux Meter (Display In Binary)
4-Bit A/D Converter (Display In Binary)
4-Bit A/D Converter (Display In Hexadecimal On 7-Segment LED)
Digital Lux Meter (Display In Hexadecimal)
Audio Level Meter
Audio Level Meter with Peak-Holding Capability
Lighting Sign Board
Digital Dice
Digital Roulette
Digital Slot Machine
Up/Down Counter
Digital Metronome
Frequency Counter
Dynamic Lighting of 7-Segment LED
Lighting LED with Pulse Width Modulation
Majority Logic Gate (2)
Lighting LCD Segments by Static Drive
Digital Buzzer
Rhythm Box (1)
Rhythm Box (2)
Rhythm Box (3)
Rhythm Box (3)

PL500 **500 In 1 Advanced Electronics Learning Lab With Advanced Course Manuals** **$159.95**

AM/FM/SW Radio Learning Kits

- ✔ Learn to build your own AM, AM/FM or SW radio!
- ✔ Discover how radios work!
- ✔ Listen to the results!
- ✔ Safe solderless assembly!

KIT

SUPER HOBBY SALE Expires 6/30/03

As the "Little Brothers" to our 130 In 1 Lab Kit (PL130, Page-35) our Radio Learning Kits teach you the fundamentals of modern radio theory and operation, and give you a working radio when you're done! There's nothing like the feeling of accomplishment when you get all done, plug in the battery, and hear it work! Yes, you did it yourself! Our Radio Kits are available in AM Broadcast, AM/FM Broadcast, and AM Shortwave models. Take your pick!

AM RADIO

Our AM2 AM Radio kit uses two transistors, 4 resistors and 5 capacitors including a variable capacitor to provide a highly sensitive AM Broadcast Radio. It covers 520 KHz to 1625 KHz and is easy to assemble with safe, solderless connections. The 18 page comprehensive learning and assembly manual covers everything from theory to parts identification and operation. Operates on a standard 9V battery (not included).

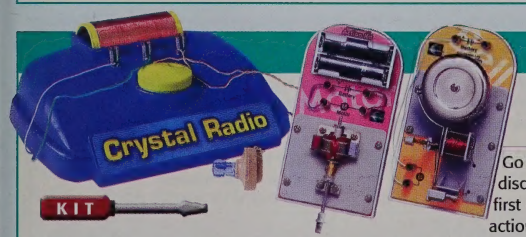
AM/FM RADIO

Our AMFM7 AM/FM Radio kit is the next step up from our AM2 kit above. It features the same quality AM radio and adds a factory assembled and aligned FM tuner to cover the 88 MHz to 108 MHz FM broadcast band. Utilizes 2 transistors, 5 resistors, 6 capacitors, 1 diode, and 1 coil to provide reception in either band. The AMFM7 is easy to assemble with safe, solderless connections. The 20 page comprehensive learning and assembly manual covers everything from theory to parts identification and operation. Operates on a standard 9V battery (not included).

AM SHORTWAVE

Our SR3 Dual Band AM Shortwave Radio Kit takes you away from the local AM/FM broadcasters and brings you into the exciting world of Shortwave Radio Listening (SWL)! The preassembled and aligned tuner section adds to the 2 antennas, 4 capacitors, 4 resistors, 1 transistor, and 1 variable capacitor to provide a sensive Shortwave Radio covering 6 MHz to 8 MHz and 12 MHz to 18 MHz. The SR3 is easy to assemble with safe, solderless connections. The 20 page comprehensive learning and assembly manual covers everything from theory to parts identification and operation. Operates on a standard 9V battery (not included).

AM2	**AM Radio Kit With Comprehensive Learning Manual**	**$11.95**	**$14.95**
AM/FM7	**AM/FM Radio Kit With Comprehensive Learning Manual**	**$14.95**	**$19.95**
SR3	**AM Dual Band Shortwave Radio Kit With Comprehensive Learning Manual**	**$14.95**	**$19.95**



Entry Level Learning Kits

Start With The Basics!

- ✔ Learn the basics of electronics and electricity!
- ✔ Discover how to listen to AM radio without a battery!
- ✔ Understand and build a working motor!
- ✔ Learn how and why bells work...and build one!

SUPER HOBBY SALE Expires 6/30/03

Go back in time and discover how radio was first received! Learn the basics of electric motors including forward and reverse action. And while everyone has heard them, learn exactly how a bell works, and then build one yourself! These beginner kits are ideal for the inquisitive mind that wants to know "how and why it works". No previous experience in electricity or electronics is required, and all kits use safe, solderless connections.

CRYSTAL RADIO SET

The crystal radio was discovered in 1901. It is still the basis of modern-day radio and communications equipment and lives on in a wide variety of radio systems. Go back in time, and learn how radio detection was first done! Without a battery or power supply, you will hear AM broadcasts with your Crystal Radio Set! Crystal radios don't need a power supply - they're powered by the radio waves broadcast by the radio station and are endlessly fascinating because of their simplicity and their complexity! They contain so few parts yet display so many concepts. The comprehensive 16 page manual covers everything from how it works, why it works, and illustrated assembly instructions. Assembly is easy with solderless connections, and no previous electronic experience is necessary. Relive history with a Crystal Set today!

MOTOR ACTION KIT

Learn the basics of an electric motor with our MA1 Motor Action Kit. Learn what makes motors spin, how to control forward and reverse in a motor, and then build one that works! Includes a fan blade and a color disk to learn how to mix color with a spinning disk! This is a great kit for the kids and for the beginner to learn just what makes the world go round! Easy assembly with solderless connections. Requires two AA batteries (not included).

BELL ACTION KIT

Ding-a-ling...is that a bell? Yep, we've all heard them, but do you know exactly how they work? Our BA1 Bell Action Kit is a perfect learning kit for the beginner or the curious! Learn what makes a bell ring, explore how electromagnetism is used, and how you can change the ringing characteristics of a bell! This kit is fun and safe, using solderless connections. Requires two AA batteries (not included).

CS2	**Crystal Radio Kit**	**$7.95**	**$9.95**
MA1	**Motor Action Kit**	**$6.95**	**$8.95**
BA1	**Bell Action Kit**	**$6.95**	**$8.95**

Mini-Kits...Fast, Easy, FUN!

Ramsey Mini-Kits are handy, easy-to-build, easy-to-use functional kits that can be used alone or as building blocks in larger, more complex designs.

Electronic Dripping Faucet

NEW! KIT

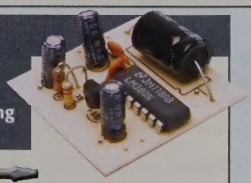
- ✔ Makes a great repeating "plink" sound!
- ✔ Create a pleasant alarm signal

Drip, Drip, Drip!

It's somewhere between a dripping faucet and the electronic chime "dinger" in a new car! The EDF1makes a pleasant but very attention getting repeating sound! "Plink, plink, plink, plink" just like the water faucet dripping into a bowl of water! Use it for anything that requires a "different" audio alarm signal, or simply to drive your friends nuts! Plus, you will learn how a simple transistor oscillator together with the eternal 555 timer IC can make such a sound! Runs on 4-9 VDC and has a speaker level output to drive any small speaker. *(That O-Ring assortment at the hardware store WON'T make it go away!)*

EDF1 **Electronic Dripping Faucet Kit** **$9.95**

Super Snoop Amplifier



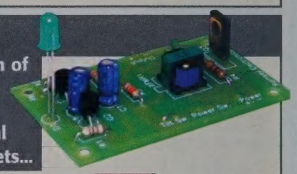
- ✔ Booster amps for radios, Walkmans, etc.
- ✔ High sensitivity long distance listening
- ✔ Powerful 2 Watt audio output

Super high gain! KIT

Here's a super sensitive amplifier that will pick up a pin drop at 15 feet! It's an ideal general purpose amplifier, too. Full 2 watts audio output is great for boosting low power receivers and radios, and when wired for high gain, makes an excellent room monitor or big ear shotgun mike amp... easy to listen in on "wildlife' both in the field and in the city! User supplied power from a 6 to 15 VDC filtered power supply rated for at least 500 mAmps or batteries, drives any speaker. Size: 1½" x ½" x 1 ½".

BN9 **Super Snoop Amplifier Kit** **$9.95**

Tickle-Stick



- ✔ Small enough to fit in the palm of your hand, but unlikely you'll hold this after building it
- ✔ Easy way to establish territorial limits for friends, foes, even pets...

Get the shock of your life! KIT

Tickle or stimulator - take your pick... once you grab it, you'll let go quick!! Mount this little kit, plus a secret switch - like a mercury tilt switch - in an ingenious can or box and watch the fun. Adding a bright ribbon bow is remarkably effective at baiting the unwary! The kit has a pulsing 80 volt tickle output and a mischievous blinking LED. And who can resist a blinking light! Great fun for your desk, "Hey, I told you not to touch!" workbench, or coffee table. Runs on 3 to 6 VDC (not included). This kit has become a fixture at our Hamfest displays, providing us, and others who are in the know, hours of fun. Size: 1½" x 3/4" x 2½".

TS4 **Tickle Stick Kit** **$12.95**

LED Blinky KIT

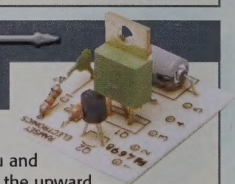
- ✔ Ideal starter kit to tweak a child's interest
- ✔ Hundreds of applications...model railroads, hats, badges, toys, etc.
- ✔ Thousands and thousands sold!

Great starter kit!

Alternately flashes two jumbo red LEDs; this is the kit you've seen on name badges, buttons, hats and toys. But, there's more to it than that. Add a couple of relays and Christmas light strings and you've got yourself a super light chaser just like the theater marquee, or add a zener diode and make an attention getting overvoltage warning light. Kit runs on 3 to 15 VDC (not included).

BL1 **LED Blinky Kit** **$7.95**

Electronic Siren KIT



- ✔ Drives any speaker
- ✔ Duplicates the wail of a police siren

Just like a police siren!

Look out, here come the cops! Nope, only you and this siren kit. The SM3 siren exactly duplicates the upward and downward wail of a police siren. Runs on 6 to12 VDC and is a loud 5 watts. Drives any speaker, but a horn type gives best results. Surprise your kids, or wife - if you live dangerously.

SM3 **Electronic Siren Kit** **$7.95**

Universal Timer

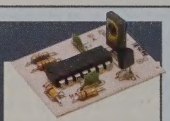
- ✔ Use as a Timer or Osc.
- ✔ Triggered by positive or negative pulses

IC Switching...$10.00! KIT

Add a time delay, keep something on for a preset time, provide timing or clock pulses, or provide an audio oscillator for tones or code practice. This little kit does it all using the 555 timer chip and adding negative or positive pulse triggering and onboard timing pots and capacitors. We give you complete instructions on how to apply this timer to your project! Runs on 5 to 15 VDC and controls loads up to 100 mA. 1¼" X 3/4" X 1 3/4"

UT5 **Universal Timer Kit** **$9.95**

Warble Alarm



- ✔ Loud and clear with 15 watts of power !
- ✔ Drives any speaker

The Mad Blaster! KIT

Need to break a lease, cause trouble or just plain get attention? The mad blaster is the answer, producing a LOUD, ear shattering, raucous racket. Super for car and home alarms, ball games, or any place where attention is needed fast. Runs on 9 to 12 VDC and drives any type of speaker, although a horn type speaker is the most efficient and will give the most noise. Size: 1 1/8" x 1 ¼" x ½".

MB1 **Warble Alarm Kit** **$9.95**

Voice Switch

- ✔ Directly switches relays or low voltage loads to 100 mA
- ✔ Use noise or your voice to control!

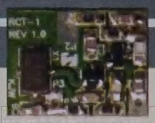
Automatic VOX! KIT

Voice activated switch (VOX) kit will provide a switched output when it 'hears' sound. Use it to key a transmitter for hands-free PTT, or turn on a tape recorder automatically when people are talking in a room. Kit runs on 6 to 12 VDC and drives up to a 100 mA load such as a relay, tape recorder motor, or transmitter key line. Size: 2 ½ "x ½" x 1 ¼".

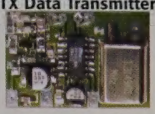
VS1 **Voice Activated Switch Kit** **$9.95**

RF Wireless Link Modules

Wired & Tested

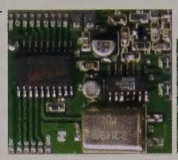


TX Data Transmitter



RX Data Receiver

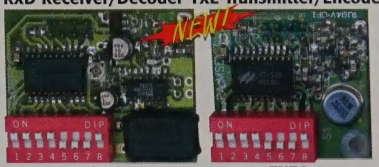
Now you can build those special remote control projects in a flash, and have the ultimate in reliability...and security! Unlike other units on the market, these units are crystal controlled for no frequency drift, yet are ultra small and very low power. These wireless RF link boards are perfect for any wireless application- sending data, car alarms, door openers, home security, electronic monitoring...you name it. Monitor a test point or an alarm point on a circuit, and have it alert you remotely, the applications are endless! Optional encoder/decoder models allow you to program each unit so that they only respond to your set code. Great for encoding sensors or controlling various functions wirelessly - no other processor or computing required! All modules are pre-assembled and tested so you can start your project today! Two versions are available - 433 MHz and 916 MHz, 916 units can use shorter antennas (3 inches) and are better in high RF environments, while the 433 units have better range but need larger antennas (7 inches).



RXD Receiver/Decoder TXE Transmitter/Encoder

NEW! NEW for 2003! A-Series modules include a programmable dip switch for encoder/decoder settings, and common dual row pin-outs for easy integration into your equipment! *(No, these do NOT send audio or video!!!, There, saved you the email!)*

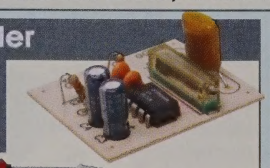
RXD433A	**433 MHz Receiver/Decoder Module w/Dip Switch**	**$39.95**
TXE433A	**433 MHz Transmitter/Encoder Module w/Dip Switch**	**$37.95**
RXD433	**433 MHz Receiver/Decoder Module, Assembled**	**$34.95**
TXE433	**433 MHz Transmitter/Encoder Module, Assembled**	**$32.95**
RX433	**433 MHz Data Receiver Module, Assembled**	**$29.95**
TX433	**433 MHz Data Transmitter Module, Assembled**	**$24.95**
RXD916	**916 MHz Receiver/Decoder Module, Assembled**	**$34.95**
TXE916	**916 MHz Transmitter/Encoder Module, Assembled**	**$32.95**
RX916	**916 MHz Data Receiver Module, Assembled**	**$29.95**
TX916	**916 MHz Data Transmitter Module, Assembled**	**$24.95**



RXDA Receiver/Decoder — TXEA Transmitter/Encoder

Tone Encoder/Decoder

- ✔ Encodes and Decodes
- ✔ Tunable from 40 Hz to 5000 Hz (extendible down to 10 Hz)
- ✔ Drives any load up to 100 mA



40 Hz to 5 KHz!

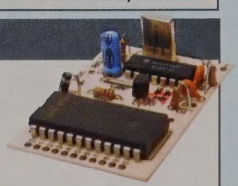
KIT

All your tone control needs on a single PC board. Kit will simultaneously decode and/or encode any frequency from 40 to 5000 Hz, (add a small capacitor to go down as low as 10 Hz) Great for PL tones, remote controls, tone burst FSK, anywhere tones are involved. Frequency is easily set with the precision 20 turn trimpot, and the circuit uses a voltage regulator and Mylar cap for the ultimate in stability. Runs on 5 to 12 VDC , will drive up to 100 mA load. Size: 1¼" x ½" x 1½".

TD1 Tone Encoder/Decoder Kit $9.95

Touch-Tone Decoder

- ✔ Decodes DTMF Touch Tones from telephone, radio, etc.
- ✔ 20 mA output drives relays, LED's, digital devices, etc.
- ✔ Decodes 0 thru 9, *, #, plus A,B,C,D



You can strap the TT7 for detection of any single digit, including the secondary A,B,C,D digits. When the decoder detects the selected digit it will provide a closure to ground for driving a relay, lamp, sounder, or other such load of up to 20 mA. A commercial central office quality decoder IC chip is used, making the TT7 extremely reliable, fast and sensitive. You may connect the TT7 directly across the speaker or detector output on any receiver, and in fact, we even detail how it may be connected directly to a telephone line. If your needs are simply single function remote tone control, the TT7 is for you. (For digital display of dialed touch-tone numbers, use our TG2 Tone Grabber on page 24, for remote control, use our DCI series on page 19). Runs on 5VDC. Size: 1½" x 7/8" x 2¼".

KIT

TT7 Touch Tone Decoder Kit $24.95

Visit us on the Web!
www.ramseykits.com

Touch Switch

- ✔ Drives loads up to 100 mA

2 separate circuits!

Touch once - it's on, touch again - it's off, or use the momentary outputs that stay on only as long as touched. Uses low power CMOS circuitry and functions on the principle of hum and noise pick-up when input is touched. Will drive loads up to 100 mA such as relay, bell, siren, etc, runs on 6 to 12 VDC, kit includes info on using as a key for CW keyers. And...there are two completely independent touch switch units on each kit PC board: it's like getting 2 for 1!

KIT

TS1 Touch Switch Kit $9.95

RF Preamp

- ✔ Broadband... from 100 KHz to 1000 MHz !
- ✔ High Gain: > 20 db
- ✔ Low noise < 4dB !

Broadband!

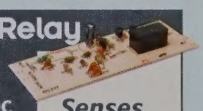
This is the famous preamp that's been written up in all the radio and electronics magazines. New low-cost microwave transistors make it possible to give performance unheard of a few years ago! Runs on 12 to 15 volts at 15 mA, has 50 to 75 ohm impedance and is unconditionally stable. 1"w x 3/8"h x 1½"d.

KIT

SA7 RF Preamp Kit $19.95

RF Actuated Relay

- ✔ Can switch up to 100 watts of RF power or 1 Amp DC



Senses RF!

KIT

This is the unit you need when adding a preamp or power amp in line with an existing antenna. It senses the RF power and closes an on-board DPDT relay which can be used to automatically switch in your added power amp or preamp. The relay is good up to UHF -100W! Many folks use one of these 'life-savers' in front of their expensive test equipment. Runs on 10 to 15 VDC. Senses power as low as 50 mW. Size: 1½" x ½" x 4".

RFS1 RF Relay Kit $19.95

Broadband Discone Antenna

Wired & Tested KIT

- ✔ Omni directional wideband antenna
- ✔ Covers 450-2500 MHz frequency range
- ✔ Very small size

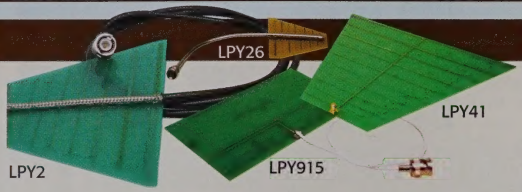
Broadband & High Efficiency... With Or Without Preamp!

The ideal antenna for scanners and other wideband UHF receivers. Discones have long been used by the military in high performance UHF applications due to their small size, very wideband operation and omni directional pattern. Expressly designed for wideband UHF and low microwave signals such as those from all the latest wireless communications devices. The wide bandwidth of this antenna is required for maximum efficiency in receiving the multitude of fascinating signals that are left behind with poorer performing "standard" receiving antennas. The omni directional pattern covers a full 360 degrees, making it the ideal antenna for reception over a wide area. A sensitive, yet very resistant to overload, preamplified version is also available if you are looking for maximum receiving range.

What an investment, if you ever give up your need for an antenna, you can always bake your Cinnamon Rolls in the top element! (But I get the middle one with all the frosting!)

DA25	**Discone Antenna Kit, 450-2500 MHz**	**$34.95**
DA25WT	**Discone Antenna, 450-2500 MHz, Factory Assembled & Tested**	**$49.95**
DAP25	**Discone Antenna Kit with Built-In Preamplifier, 450-2500 MHz**	**$49.95**
DAP25WT	**Discone Antenna with Built-In Preamplifier, 450-2500 MHz, Factory Assembled & Tested**	**$69.95**

Precision Printed Circuit Antennas



Wired & Tested

No Tuning!

- ✔ Small thin size with excellent performance
- ✔ Very directional—ideal for transmission or reception use
- ✔ No tuning needed!
- ✔ Rugged FR-4 construction

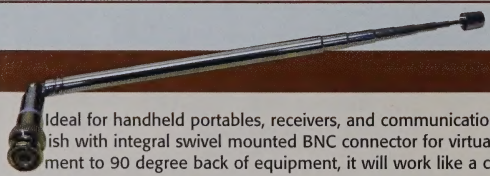
This series of Log Periodic and Yagi PCB Antennas allow you to cover the entire spectrum from 400 MHz to 6.0 GHz! If you want to get the maximum performance out of your UHF to low frequency microwave wireless system, one of these little babies is the answer! Their directional property "compresses" the signal into a powerful beam that is 4 times more powerful in the desired direction. They are the ideal antennas for scanners, wireless LAN's, and other wireless devices. When you need a dedicated point-to-point link, they have no equal!

Maintenance free construction on rugged FR-4 material boasts the added advantages of no tuning and no fragile antenna elements to break or twist! The small size and wide bandwidth makes them ideal for feeding reflector antennas such as easily constructed corner reflectors or parabolic grids. Pick the one that's right for you and start enjoying the fruits of a well designed system!

The Log Periodic models LPY41 (400-1,000 MHz, SMA-female), LPY2 (900-2,600 MHz, BNC-male), and the LPY26 (2,100-6,000 MHz, SMA-male) easily interface to your system via the provided connectors. The wide bandwidth characteristics of the Log Periodic design ensure total reliability within their respective ranges. The Yagi model LPY915 (915 MHz, BNC-male) is a patented design perfect for directionally extending the range of your cordless phone or other 915 MHz wireless device. Finally, the answer to those poor range blues! *(So I put the LYP2 in the last catalog and the web, and we found people buying them and reselling them on EBay for 10 times our price! I guess congrats to the entrepreneur who thought of that, and the the stupid award goes to the people that bought them!!! Editor's comment!)*

LPY41	**Logi Log Periodic PCB Antenna, 400-1,000 MHz, Factory Assembled & Tested**	**$39.95**
LPY2	**Logi Log Periodic PCB Antenna, 900-2,600 MHz, Factory Assembled & Tested**	**$34.95**
LPY26	**Logi Log Periodic PCB Antenna, 2.1-6.0 GHz, Factory Assembled & Tested**	**$34.95**
LPY915	**Directional Yagi PCB Antenna, 915 MHz, Factory Assembled & Tested**	**$29.95**

Telescopic Whip Antenna



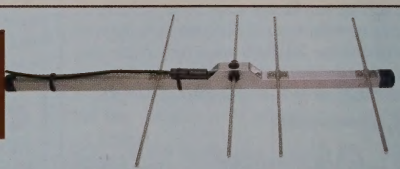
Wired & Tested

- ✔ High quality with BNC connection
- ✔ Covers VHF and UHF bands

Ideal for handheld portables, receivers, and communications test equipment. Professional chrome finish with integral swivel mounted BNC connector for virtually any application! From the top of equipment to 90 degree back of equipment, it will work like a champ! Whip extends 5.25"" to 27.75"" to cover a wide variety of ranges with ease!

WA10	**Telescopic Whip Antenna**	**$14.95**

Looking for a GREAT Yagi Antenna?
Three models to cover 140 MHz to 928 MHz
See Page 39



QRP Mini-Receivers

KIT

- ✔ Sensitivity of approximately one microvolt rivals the big rigs!
- ✔ Covers 500 KHz of selected band
- ✔ Receives CW, SSB and AM
- ✔ Plenty of audio output, drives any speaker or phones

Get In On The Action...For Under $30!

These little rigs are burning up the airwaves as young and old alike are rediscovering the fun in building their own equipment! Our detailed, step-by-step instruction manuals make building an enjoyable and rewarding experience. You're guided carefully to the completion of a unit that not only works, but will provide hours of operating pleasure. These trusty and proven Ramsey all mode mini rigs are routinely used worldwide by Hams of all ages. You 'll find you don't need high power - K71RK worked and QSL'd all states, plus global DX QSOs from Argentina to the former USSR—with only 2 mW! You don't need hundreds of watts, thousands of dollars or massive equipment; you'll find it's more fun with less! These little receivers are based upon the hot Signetics NE-602 that we read about almost every month in all of the Ham magazines and handbooks. The receivers are true superheterodyne direct conversion - a simple design that does not require the use of fancy IFs, RF filters, or exotic mixers; in short, the ideal design for easy hobby building. Only recently have high performance ICs become available that enable such circuitry to be constructed. Beginners can easily build these receivers. And, experienced amateurs and QRP enthusiasts can use them as a reliable, economical, basic foundation for modifications. Our single PC board has plenty of room for lots of modifications and hook-ups - tinker to your heart's delight. Suggestions and technical info are included in every receiver manual. Isn't this what Ham radio is all about? Operates on 9 V battery (not included). Optional case size: 5"W x 1½"H x 5¼"D".

HR20	**20 Meter Receiver Kit**	**$34.95**
HR30	**30 Meter Receiver Kit**	**$34.95**
HR40	**40 Meter Receiver Kit**	**$34.95**
CHR	**Matching Case & Knob Set for HR Receivers**	**$14.95**

QRP Mini-Transmitters

KIT

Work The World On A Watt!

- ✔ Four transistor circuit, oscillator, RF amplifier chain, and clean keying stage
- ✔ RF output of approximately one watt (3/4 W for QRP20)
- ✔ Pi-network output for good matching and harmonic suppression
- ✔ Provision for two internal crystals (one crystal provided), front panel switching
- ✔ VCXO tuning, frequency can be tuned approximately 7 KHz around XTAL frequency

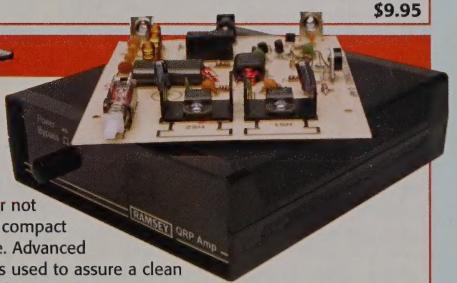
These nifty little CW transmitters are practical and economical take-along rigs for trips, camping, teaching or just amazing yourself with what a watt will do! With exceptional manual of over 20 pages, the detailed step-by-step instructions guide you to a perfectly operating finished transmitter. The rigs use a standard crystal that is connected into a VCXO circuit - which means that you can tune around the crystal's frequency by up to 20 KHz - thus giving you stable crystal control while still being able to tune around! A front panel switch lets you choose between two crystals, we include one, you can add another of your choice. A built-in T-R switch allows break-in operation. Of course, these transmitters interface perfectly with our QRP Mini-rig receivers and our CMOS CW keyer! And for the real Ham, there's plenty of room inside the custom case for your own circuit modifications and experiments. These little rigs are often the heart of many QRP operator's stations. Modify "till-the-cows-come-home," or just use 'em as they are - these little rigs pack a lot of performance into an economical package. Runs on 12 VDC at 200 mA.

QRP20	**20 Meter Transmitter Kit, includes 14.060 MHz Xtal**	**$34.95**
QRP30	**30 Meter Transmitter Kit, includes 10.108 MHz Xtal**	**$34.95**
QRP40	**40 Meter Transmitter Kit, includes 7.040 MHz Xtal**	**$34.95**
CQRP	**Matching Case & Knob Set for QRP Transmitters**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**

QRP Linear Amplifiers

KIT

- ✔ Works great with Ramsey QRP rigs or any other 1-2 watt transmitter
- ✔ Built-in T/R relay automatically switches between receive and transmit
- ✔ Operates all modes; CW, SSB or AM



Cut Through The QRM With 20 Watts!

Need a little extra boost for your QRP rig? This nifty little amplifier may be all you need. Believe it or not 20 watts is only 7db (about one S unit!) less power than a full sized commercial transceiver. These compact amplifiers are easily driven by any of our QRP transmitters or any other unit in the ½ - 2 watt range. Advanced power MOSFETs are used for the utmost in efficiency and purity, while a multistage low pass filter is used to assure a clean signal output. Power required is only 12 VDC at 2 to 4 amps, depending upon power output. Complete step-by-step instructions are provided which makes building the kit a breeze. The amplifier works well for all modes: CW, SSB and AM.

QAMP20	**20 Meter QRP Amplifier Kit**	**$44.95**
QAMP30	**30 Meter QRP Amplifier Kit**	**$44.95**
QAMP40	**40 Meter QRP Amplifier Kit**	**$44.95**
CQAMP	**Matching Case & Knob Set for QRP Amplifiers**	**$14.95**

2-Meter FM Transmitter

KIT

- ✔ 4-5 watts RF output
- ✔ Both data and mike audio inputs
- ✔ Runs on 12-14 VDC, <1 amp
- ✔ Built-in test points to make alignment easy
- ✔ Crystal at 1/9 transmit frequency
- ✔ Direct FM with varactor modulation
- ✔ Spurious and harmonics down 60db
- ✔ Can operate anywhere from 140-160 MHz

True Direct FM At 4-5 Watts!

Fed up with the high cost and unavailability of two meter transmitters? If you've been having to rip apart a whole rig just to get a transmitter that will get the job done around the clock, the FT146 is for you. Designed for repeaters, remote bases, data transmission, and even paging, you'll find the FT146 ideal as a low cost reliable transmitter. Direct FM is used to assure error-free data and excellent voice modulation characteristics. Transmit frequency is crystal controlled for proper stability and a crystal oven can be used for applications that demand "better-than-commercial" quality accuracy. You'll find the FT146 easy and fun to build. Our detailed instructions carefully describe each step and there's a complete technical discussion of all circuitry to satisfy even the most demanding! We've built-in test points throughout the FT146 to make alignment easy-in fact, the only equipment you'll need is a multimeter. Comes complete with crystal for 146.52 MHz, additional crystals available. Set aside an evening to accomplish this kit and be proud to say, "I built it myself!" Add our matching case set for a complete, factory assembled professional look. Optional case: 5"W x 1½"H x 5¼"D.

FT146	**Two Meter FM Transmitter Kit**	**$69.95**
CFT	**Matching Case & Knob Set for FT146**	**$14.95**

KIT

Mini VHF Receiver

- ✔ Tunes any 5MHz portion of selected receiver band
- ✔ Excellent performance, less than 1µV sensitivity
- ✔ True Superhet Receiver with sharp ceramic IF filters
- ✔ Front panel volume, squelch, and tuning controls
- ✔ Add our matching case set for a finished 'Pro' look

Low Cost, Easy To Build!

You get a lot for your money with any one of these dual-conversion FM receivers. In just one evening of building fun you can be snooping around the band monitoring the local repeater, checking out new bands, or even eavesdropping in on the local police and businesses. There are no short cuts taken in the design of these units-sensitivity is equal to full size monitor receivers or scanners. Schools, scout troops, clubs and hobbyists use these receivers for teaching, monitoring, and just plain building enjoyment. Any one of these little receivers are ideal for easy chair listening, and with no big clunky box and wiring to aggravate the XYL! All four receivers can be tuned outside of the intended amateur bands. For example, the FR146 two meter receiver will tune any 5 MHz segment from 130 to 180 MHz. Choose your band and enjoy FM repeater and simplex monitoring on a budget! Help a newcomer discover the 220 MHz novice band. Listen in on exciting 10 Meter international FM action. Rediscover the fascination of 6 Meter sporadic E band openings and uncrowded new FM repeaters. For a professional finished look, our matching case and knob set can't be beat. Kit includes detailed step-by-step manual that carefully guides you to a finished working radio. Runs on 9V Battery. Optional case: 5"W x 1½"H x 5¼"D.

FR146	**2 Meter Receiver Kit**	**$39.95**
FR6	**6 Meter Receiver Kit**	**$39.95**
FR10	**10 Meter Receiver Kit**	**$39.95**
FR220	**220 MHz Receiver Kit**	**$39.95**
CFR	**Matching Case & Knob Set for Any Receiver Kit Above**	**$14.95**

2-Meter Receiver Preamp

- ✔ 2 Meter Preamp with the sharpest filtering available
- ✔ Can be powered up the signal coax (9 to 15 VDC)
- ✔ Helical filter for fantastic intermod rejection

KIT

Here's the ideal preamp for repeaters, base stations, mobiles - anywhere a selective low noise signal boost is needed. Unlike other preamps the PR100 features extensive RF filtering to crush intermod before it reaches your radio. Two poles of sharp Helical filtering combined with a 3 pole L-C tank allow only signals of interest to reach your receiver. A low noise microwave bipolar transistor provides an excellent 1 dB noise figure while remaining ruggedly insensitive to static and strong signals. In fact, this preamp is actually included as part of our Weather Satellite receiver system! Preamp is easily configured to be powered via the coax (for mast mount applications) or powered through a separate power cable. Kit is designed to fit snugly into a 3" long piece of 1 ½" PVC pipe with end caps, making an ideal outdoor enclosure. Runs on 9 to 15 VDC . Size: 4"w x 7/8"h x 1 3/8"d.

PR100	**2M Preamp Kit**	**$34.95**

KIT

Low Cost Receiver Preamps

- ✔ Low noise (typically < 1 to 1.5 dB)
- ✔ High Q tuned circuits (very narrow band) prevent out-of-band signals from overloading front-end

Put some new 'ears' on your rig with one of these hot little preamp kits. Their high gain combined with low noise will improve most any receiver. Fully protected against overload and designed for low current and stable operation they employ high Q tuned circuits which restrict out-of-band signals which can cause intermod blanking and overload of your radio's front-end. Don't be misled by GaAs FET claims! The cheap dual-gate FETs (manufactured for TV tuner usage!) used by others just don't come close to the performance of these preamps designed with NEC microwave transistor devices. Gain is typically 16 to 20 dB and noise figure is 1 dB @ 2 Meters, 1.2 dB @ 220 MHz, and 1.4 dB @ 440 MHz. Compact design for easy installation into most any rig. Operates on 12 to 15 VDC . Size: 1" x 3/8" x 1 ½".

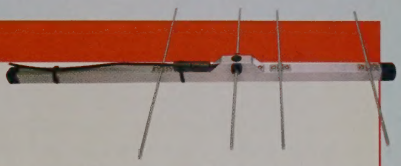
PR10	**2 Meter Preamp Kit**	**$14.95**
PR20	**220 MHz Preamp Kit**	**$14.95**
PR40	**440 MHz Preamp Kit**	**$14.95**

High Performance Yagi Antennas

KIT

- ✔ Construction that's rugged and simple
- ✔ Feed point fully watertight and sealed
- ✔ Cut elements during assembly to exact frequency desired

Commercial Quality... At A Hobbyist's Price!



Joe Reisert, WIJR, probably the best known VHF'er has entered into the antenna business with a killer line of Yagis. Joe sent us a couple of antennas to check out and were we impressed! We've got some pretty decent HP test gear here at the plant and measuring his antennas was a delight. Talk about a match at 50 ohms impedance, even our $1800 EMI antenna couldn't come close to one of Joe's antennas.

Model	Elements	Gain	F/B Ratio	Length	Frequency
140-3	3	5 dB min	20 dB min	3 ft	140 - 300 MHz
400-4	4	7 dB min	15 dB min	2 ft	300 - 500 MHz
918-4	4	7 dB min	14 dB min	1.2 ft	902 -928 MHz

Construction is rugged and simple. Joe wisely made the feed point fully watertight and sealed the coax right into it - no more antennas that go flaky when the weather's bad. Another nice feature is the ferrite sleeve balun, most often left out on other antennas. You'll find no coax radiation with this yagi. In short, these are the finest 3 and 4 element yagis on the market - we guarantee it! *(Got one of these at 900 MHz...works great!)*

1403	**Yagi Antenna, 140-300 MHz**	**$79.95**
4004	**Yagi Antenna, 300-500 MHz**	**$79.95**
9184	**Yagi Antenna, 902-928 MHz**	**$109.95**

2-Meter Power Amplifier

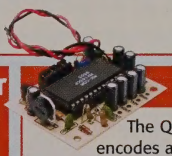
KIT

- ✔ 10 times power gain!
- ✔ 4 Watts in, 40W output!

The PA1 will give you a ten times power gain, 2 watts in for 20 watts out, 4 in for 40 out. Power required is 12 to 14 volts DC at 5 amps with 40 watts out. Add the optional T/R switch and receiver preamp for added performance!

PA1	**Two Meter Power Amplifier Kit**	**$39.95**
RFS1	**RF Sensed TX/RX Relay Kit**	**$19.95**
PR10	**Two Meter Preamp Kit**	**$14.95**

CTCSS Encoder/Decoder



- ✔ Digital frequency generation for no drift!

The QuikTone encodes and decodes any of the 39 standard CTCSS tones. Jumpers allow easy frequency programming and built-in digital audio filtering eliminates falsing and interference from normal speech. The QT1 uses the latest single chip CMOS technology, runs on 5 to 15 volts DC at very low current and is a small 2 x 1½ inch size.

KIT

QT1	**CTCSS Encoder/Decoder Kit**	**$44.95**

Micro-Memory CW Keyer

Wired & Tested

- ✔ True iambic keying
- ✔ 4 programmable messages (up to 26 words)
- ✔ Non-volatile EPROM memory (retains up to 100 years)
- ✔ Adjustable pitch and speed (3 to 60 words per minute)
- ✔ Factory assembled & tested!

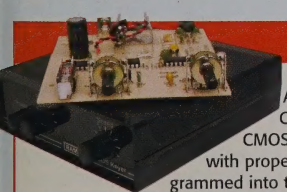
Send Like A Pro At 3-60 WPM! Wired, Tested, And READY TO GO!

SUPER HOBBY SALE Expires 6/30/03

Add to your CW enjoyment with the microprocessor controlled CW700 Micro Memory Keyer. Motorola's latest microprocessor is used to create an ultra simple yet powerful and easy-to-use keyer. You get iambic keying, dot-dash memories, 4 programmable messages of up to 26 words and EASY programming right from your key! Your messages are stored in advanced EPROM memory that lasts for 100 years—finally a key that won't go silent when you do! Other convenient features include: built-in sidetone with adjustable pitch, variable speed from 3 to 60 WPM and it's totally RF proof. A CMOS FET transistor output will key any rig without interface problems and for the experimenters, we even provide a TTL output. Use your favorite key, paddle or even built-in touch paddles! This keyer is fully wired and tested with enclosure for a special price. Operates on 9 to 12 VDC. Includes a 9V battery clip (no battery) and 2.5mm power jack. Case size: 5"w x 1½"h x 7¼"d (w/paddles). *(I tried to learn code a number of years ago, couldn't get into it, instead I donated a boatload of 2M repeaters, put them on my towers, and then got yelled at when I tested them because I wasn't a Ham! Now you know the rest of the story!)*

CW700WT	**Factory Assembled & Tested CW700 With Case & Knob Set**	**$79.95** ~~$99.95~~

Easy-Key CW Keyer



- ✔ Works great on any rig

KIT

Add to your CW fun with our low cost CMOS Keyer Kit. Self completing dots and dashes with properly weighted spacing and timing are all programmed into the CW7's design. Built-in sidetone, adjustable pitch, front panel speed and volume controls. You need to supply an external set of paddles (detailed in manual). 9V battery operation.

CW7	**CW Keyer Kit**	**$29.95**
CCW	**Matching Case & Knob Set for CW7**	**$14.95**

Code Practice Oscillator

- ✔ Learn the code, great starter kit

Learn CW, It's Fun!

KIT

This little code practice oscillator is easy to build, easy to use, and features an audio tone adjustment for your listening pleasure. Using the ever popular 555 timer chip and the straight key paddle you are in full control of the output tone length and pitch. Size 3 ½" x 1½" x 3/4". 9V battery not included.

CPO3	**Code Practice Oscillator**	**$14.95**

Low Bander Low Frequency SWL Converter

Wired & Tested KIT

- ✔ Explore the world below 400KHz!
- ✔ Easy hook-up with built-in antenna switch
- ✔ Works with any short wave radio

NEW! *Tune In The Exotic Low Freq RF Band!*

Everyone has a high performance general coverage SW radio, but who needs a converter for LF? YOU do! You'll be amazed, a ton of exciting signals down there with hundreds of beacons from around the world along with time and frequency standards from various governments. There are lots of hobbyists running in the one watt license-free band and the FCC is even considering a Ham band with 200 watt power! Many newer SW receivers say they will receive down low, but check the specs - just because it tunes down to 100 KHz doesn't mean it can actually hear anything there! Most receiver front-ends optimized for HF don't work well at LF. We designed the lowbander to hear it all, a 7 pole low pass filter along with an overload resistant switching mixer squashes spurious birdies and annoying interference. Hook-up is a snap, with built-in antenna switching between regular and LF antennas. All signals are converted up to 4 MHz, so if you want to hear 136 KHz - just tune your rig to 4.136 MHz - it's that easy. We give you antenna hints as well as web links for info on the exciting world below 400 KHz! Add the matching case & knob set for a really professional looking converter. Runs on 12VDC, order our matching AC125 power supply. *(While we said low frequency, no this won't pickup audio or even your dog whistle, you can only go so low!)*

VLF1	**Low Frequency SWL Converter Kit**	**$34.95**
CVLF	**Matching Case & Knob Set for VLF1**	**$14.95**
VLF1WT	**Factory Assembled & Tested VLF1 Including Case & Knob Set**	**$69.95**
AC125	**110VAC Power Adapter**	**$9.95**

Doppler Direction Finder

Wired & Tested KIT

- ✔ Track down jammers and hidden transmitters with ease!
- ✔ Elegant and cost effective design thanks to WA2EBY! Featured in May/June 1999 QST Magazine
- ✔ Convenient LED 22.5 degree bearing indicator
- ✔ Adjustable damping rate, phase inversion, scan enable/disable
- ✔ Utilizes latest high speed CMOS technology for signal conditioning and audio processing!

Get in on the fun of radio direction finding (RDF) with this super kit ! The latest in affordable Doppler direction finding equipment available in a complete kit form ..this one even includes the receiving antenna assembly! A must for the "fox hunter" at an unheard of price! Radio direction finding is a fascinating hobby is becoming more and more popular in today's portable world. With the increasing number of intentional jammers and other unknown transmitters around, Doppler DF locators have become the rage with a display that gives you a direct bearing on the location of the transmitter. Pretty neat trick considering you don't need multiple separate receivers at different locations to triangulate on the mystery transmitter! The kit includes the Doppler Direction Finder display unit, and all the parts necessary to build your own four point, 5 piece magnetic antenna assembly for easy setup and use. Operates on 12VDC, and includes a matching 12VDC power plug for custom integration and connection into your vehicle or portable power supply. Easy to hook up to any FM receiver. Transmitter (the object of your DF'ing) need not be FM, it can be AM/FM or CW. Requires only a connection to your receiver's speaker jack and radio's antenna. The whips can be cut and optimized for any frequency from 130-1000 MHz. An easy to build, reliable kit that compares most favorably to commercial units costing upwards of $1000.00! Comes complete with matching case, 12VDC plug, magnetic antenna kit with cables, and a comprehensive instruction manual. *(Sorry, the Dodge Stratus above isn't included, my daughter totaled it!)*

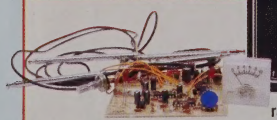
DDF1	**Doppler Direction Finder Kit, with Case, Power Cable, and Magnetic Antenna Kit**	**$149.95**	~~$169.95~~
DDF1WT	**Factory Assembled & Tested DDF1 with Case, Power Cable, and Magnetic Antenna Kit**	**$229.95**	~~$269.95~~

Foxhound Direction Finder

KIT

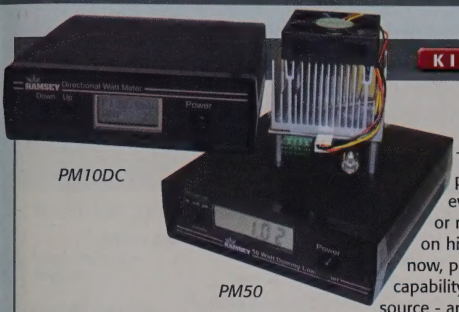
Track Down Those Hidden Transmitters

- ✔ Pin diode switching of antennas, coupled with filters, determine direction of source signal as indicated by a pair of LEDs
- ✔ Sensitive metering allows easy "zeroing-in" on transmitter!



The Foxhound connects to any radio through the speaker jack and antenna connector and will allow you to easily zero in on the exact direction of an unknown transmitter, be it aircraft, two-way radio, Ham or even TV. The Foxhound uses a pair of telescopic whip antennas which are manually turned (by you!) until the sensitive meter indicates the lowest reading. This direction finder uses the latest technology for trouble-free, solid operation. The antennas are alternately switched on and off using PIN diodes. The outputs are then passed thru a high-Q audio filter and synchronously detected for phase shift. A pair of LEDs tell you in which direction you should rotate the antennas- to the right or left. We provide the telescopic whip antennas and ask you to provide a two foot long "boom" on which to mount them. And, as an added feature, we've included an automatic T-R switch! The T-R switch is ideal for handie-talkie usage; if you wish to transmit with your radio - go ahead, the Foxhound will sense your transmitter power and automatically switch itself out of the circuit while you talk. Be the one with the answers, win those transmitter hunts, track down the jammers; you'll do it all with your Foxhound! Operates on internal 9 Volt battery or 12VDC, via a 2.1mm female power jack. *(No foxes were injured or harmed during DF1 development!)*

DF1	**Foxhound Direction Finder Kit**	**$69.95**
CDF	**Matching Case & Knob Set for DF1**	**$14.95**
AC125	**110VAC Power Adapter**	**$9.95**



PM10DC

PM50

KIT Wired & Tested

Professional RF Power Meters

- ✔ Broadband: PM50 10 kHz to 450 MHz ± 0.5dB, 10kHz to 500 MHz ± -2dB; PM10DC: 50 kHz to 250 MHz ± 1.5dB
- ✔ High dynamic range: better than 77dB!!
- ✔ Power Handling: up to 50 Watts continuous maximum; PM10DC low insertion loss, less than 0.1dB
- ✔ Readings auto-range and are displayed in Watts/dBm/etc
- ✔ Easy to read LCD display with powerful microprocessor

Brand New For 2002!

The PM line of digital power meters is what every RF lab technician or micro-broadcaster needs on his workbench. Until now, power meters of this capability cost thousands! Imagine being able to accurately measure RF power from almost any signal source - and with the PM10, be able to tune and match antennas! Once you use one, you will wonder how you ever did without it! And if you are a micro-broadcaster, the PM10DC will allow you to squeeze every drop of signal out of your transmitter into a perfectly matched antenna for maximum range!

The PM50 includes a 50 watt, 50 ohm dummy load allowing you to tune your transmitter off air without causing interference. An intelligent speed controlled fan adjusts cooling of the load according to power measured! Extremely wide power range allows continuous measurement from an amazing 1µWatt to 50Watts, all without any manual range switching or setting - that's over 77dB! And accuracy is an astounding ± 0.5dB over the entire specified frequency range!

The PM10DC is a directional coupler power meter allowing measurement of both forward and reverse power. This is very useful for tuning antennas and checking the entire transmission system. You can easily see the amount of power going out from the transmitter and the amount of power being reflected back from a mismatched antenna. Trim your antenna for maximum efficiency! Extreme dynamic range allows you to get meaningful measurements even with transmitters of less than 1mW of power or up to 50 watts!

A powerful processor calculates and displays forward and reverse power, VSWR, dB of directionality, AM percent modulation, peak power, and average power. Try doing that with any other power meter for less than a thousand bucks! So which meter do you need?

Use the PM50 if you need to test transmitters off-air or into a good 50 ohm dummy load. And the PM10DC is just the ticket for tuning antennas and checking your entire transmitting system. Both units include the matching case & knob set and power adapter. Case size 5"W x 1½"H x 5¼"D.

PM10DC	**Power Meter/Directional Coupler Kit, Includes Case & Knob Set and 110VAC Power Adapter**	**$149.95**
PM10DCWT	**Factory Assembled & Tested PM10DC**	**$199.95**
PM50	**Power Meter/Dummy Load Kit, Includes Case & Knob Set and 110VAC Power Adapter**	**$129.95**
PM50WT	**Factory Assembled & Tested PM50**	**$189.95**

Wired & Tested

Coaxial Cable Tester

- ✔ Gives you absolute go/no-go results
- ✔ Indicates good, open, or shorted
- ✔ Supports popular coaxial connector types!
  - ✔ RCA Phono-Female
  - ✔ BNC-Female
  - ✔ SMA-Female
  - ✔ SMB-Male
  - ✔ SMB-Female

Check Those Coax Cables Quick And EASY!

It all started when we were looking for an easy way to test coaxial cables and jumpers on our production floor. We were using the old DMM probe test, and that was getting pretty lame! So we told our engineers to come up with a box to test all the coax configurations that are popular. It became the most popular item on the test floor! They put away the Fluke meters, and put one of these with every set of crimpers...and we've noticed an incredible decrease in failed cables! So we figured if WE found it handy, so will you! The CCT1 gives you an absolute go/no-go test, showing good, open, and shorted conditions. The CCT1 has dual sets of connectors on the front panel.

Any coaxial cable with any combination of these connectors can be instantly go/no-go tested. That means you can test same connector cables as well as cross connectorized cables. Just connect both ends of your cable to the box, and instantly know its status! It doesn't get much easier than that. Operates on 12VDC with AC power adapter included.

CCT1	**Coaxial Cable Tester, Factory Assembled & Tested**	**$79.95**

Pocket Reference Books

- ✔ Three master references

WOW!!! Is it possible that ALL the answers to every technical question you could possibly have are in these three books? Maybe not, but I'll bet most of them are. Each manual contains over 500 fact filled pages.

The Pocket Reference, has hundreds of charts, tables, conversion factors, constants and specifications on every aspect of human endeavor, from chemistry to electronics...almost anything! The Pocket PC Reference is fast becoming a PC "users bible." From ASCII codes and DOS commands to connector layouts and more. And the Win95/98 edition might not answer every Windows question you might have (who could?) but it makes one great reference to the Win95/98 system and operation.

PRB1	**Pocket REF Reference Book**	**$9.95**
PPCR1	**Pocket PCREF PC Reference Book**	**$14.95**
PWINREF1	**Pocket REF Reference Book**	**$14.95**

Wired & Tested

Communications Service Monitor

Thousands In Use Worldwide!

- ✔ 100 KHz–1 GHz
- ✔ Covers All Pager and 2-Way Frequencies
- ✔ Built-in Frequency Counter
- ✔ AM & FM Internal/External Modulation
- ✔ Direct Numeric Frequency Entry

The COM3 is used around the world for testing two-way radios, amateur radios and repeater stations, hobby equipment, pagers, and more! It's easier to set up and use than competitive units. It is small and light, weighing under 18 pounds with the battery pack installed (fully portable!). And it's priced for the serious hobbyist, amateur radio operator, or amateur radio repeater owner! Imagine having a full function service monitor, just like the pro's!

Performs the Tests You Do Most

Measure deviation and frequency error with an easy to read bargraph display. Don't know the frequency? No problem, a built-in frequency counter can determine and display the exact operating frequency and even the CTS tone in seconds! No guessing! Check receivers with the full range RF signal generator that also includes built-in CTS and tone generators!

Direct Access Function Selections

No fumbling with complex, shifted-key functions or embedded layers of "soft keys." The direct entry keys are logically grouped, on a sealed membrane front panel, and directly accessed with a single keystroke.

Wide Frequency Range

Whether you're working on a 2-Meter, 220 MHz, 440 MHz, 900 MHz, or anywhere in between, the COM3 has you covered...anywhere from 100 KHz to 999.999 MHz, AM or FM.

Technical Specifications

Frequency Range:	100 KHz to 999.9995 MHz; Continuous tuning, no decade boundaries
Accuracy:	±0.0001% (1.0 ppm) 0–50°C (higher accuracy timebase available)
Sensitivity:	Less than 5 µV (typically less than 2 µV)
FM Deviation:	Two ranges...±1.5 KHz, ±7 KHz
Carrier Frequency:	Two ranges...±1.5 KHz, ±7 KHz
RF Output:	0.1 µV to 10 mV in 5 ranges ±2.0 dB
FM Modulation:	Peak deviation 0–15 KHz; Bandwidth 10 Hz to 10 KHz
AM Modulation:	Depth 0–99%. Bandwidth 10 Hz to 10 KHz
Internal Mod.:	Synthesized audio tones 10–1000 Hz in 0.1 Hz Steps, plus 1 KHz Sinewave
Power Protection:	Automatically switches to external jack if reverse power detected
Freq. Counter:	Two ranges; RF: 10 MHz–999.999 MHz (1 KHz resolution), Audio: 10 Hz–1 KHz (0.1 Hz resolution)
Memory:	Up to 10 complete front panel set-ups can be stored and recalled on command
Controls:	Flat, fully sealed, membrane switch panel
Display:	Bright, 7-digit LED (0.4" tall)
Integrated Testing:	Battery with recharging system and audio monitoring speaker built-in
Connectors:	Antenna (supplied), signal generator output, Monitor audio output (Scope), modulation (in and out), digital pager input/demod output, external (safety) load
Dimensions:	12"w x 5.5"h x 16"d
Weight:	Less than 18 lbs. (including built-in battery pack)

COM3	**Communications Service Monitor, 100 KHz - 1 GHz**	**$1,995.00**
230VCOM	**230VAC 50/60 Hz Power Option**	**N/C**
AM4	**AM Modulation Metering Option**	**$285.00**
FCSH	**Front Cover & Side Handle Kit**	**$59.95**
CC	**Cordura Custom Travel Case**	**$99.95**

Professional LCR & Temperature Meter

Wired & Tested

- ✔ 3½ Digit
- ✔ 2000 count
- ✔ Autoranging frequency to 15 MHz
- ✔ Temperature probe included

Measure Resistance, Capacitance, Inductance & Temperature... With One Meter!

The DMM240 handheld LCR meter will measure resistance from 20 to 2000M Ohms in nine ranges. It will also measure capacitance from 200pF to 200mF and inductance from 2µH to 20H and much more.

It has a 3½ digit, 2000 count display. Meter Capacitance in 8 Ranges, Max & Data Hold Feature, and Autoranging Frequency to 15MHz. Comes complete with temperature probe, standard probes, and holster style case.

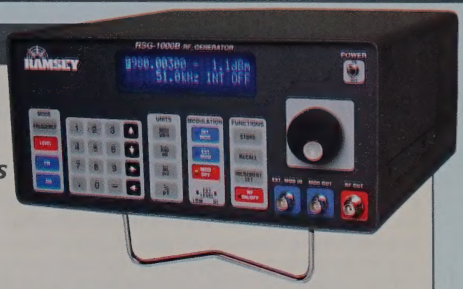
3½ Digit, 2000 Count
DC Volt: 0-20V ±2% Resistance: 0-20/200 ohm/2/20/200/ 2000K ohm/20/200/2000M ohm ±0.3%
Capacitance: 0-200P/2/20/200nF/2/20µF ±2%/200µF to 200mF ±3%
Inductance: 0-200µH/2m/20m/200mH/2H/20H±5%
Temperature: -20-500C ±2% 500C-750C ±3%
Capacitance: 0-200P/2/20/200nF/2/20µF±2.0%
Frequency: Autoranging up to 15MHz ±0.1%
Continuity
Diode Test Function
Signal Output Function
24VDC/24VAC Overload Protection
10A Fused Protection
hFET Test Function

DMM240	**LCR & Temperature Meter**	**$99.95**

RF Signal Generator

- ✔ 100 KHz–1100.00000 MHz
- ✔ 10 Hz Continuous Tuning
- ✔ AM & FM Internal/External Modulation
- ✔ 90 User Setup Memories
- ✔ RS232 Interface

Wired & Tested



Professional Quality... Experimenter's Price!

Technical Specifications (at 0 dBm output level)

Frequency Range:	100 KHz to 1100.00000 MHz
Resolution:	10 Hz continuous tuning, 100 Hz above 1000 MHz
Oscillator Frequency:	50 MHz TCXO
Oscillator Stability:	±0.1 ppm from 15°C to 35°C
Harmonics:	-30 dBc typical, 1 MHz–1100 MHz
Non-Harmonics:	-50 dBc typical
Residual FM:	5 Hz typical, 0.3 to 3 KHz detection BW
Residual AM:	-60 dBc (>10 KHz from carrier) 0.3 to 3 KHz detection BW
Output Level:	-130 to +10 dBm (50 Ohms); Resolution: 0.1 dB
Level Accuracy:	±1 dB (>500 KHz)
Level Units:	dBm, dBmV, mV, dBµV, µV
Reverse Power Protect:	25 watts, 50 VDC
Leakage:	1 µV (2 turn loop, 1 inch diameter, 1 inch distance)
Frequency Modulation	
Range:	0–99.9 KHz in 0.1 KHz steps
Accuracy:	±5% of scale
Freq. Response:	50 Hz to 15 KHz
Max. Deviation:	99.9 KHz; except 250 to 500 MHz, 50 KHz
Amplitude Modulation	
Depth:	0–75% in 1% steps <0 dBm
Distortion:	Less than 5%
Accuracy:	±5%
Freq. Response:	50 Hz to 25 KHz
Modulation Sources:	Internal 1 KHz derived from reference. External – 600 ohm impedance with level LEDs to indicate correct 1 Volt p-p input level
Front Panel:	Sealed membrane with audio acknowledgment
Display:	Two line, vacuum fluorescent display
RS-232:	RS-232 interface provides polled readout plus downloading and uploading of all front panel setups
Memory:	90 full front panel set-ups. 9 series of 10 memories each. 10 year retention
External Timebase Input:	10 MHz, 1 Volt p-p
Power Requirements:	90 to 230 VAC ±10%, 50/60 Hz
Dimensions:	12"w x 6"h x 12"d
Weight:	11 lbs.

RF SIGNAL GENERATOR With A Frequency Range Of 100 KHz to 1.1 GHz, You Can Align Any Receiver!

Excellent Value

The RSG1000B has been designed to fill the need for a basic RF signal generator for design, development, and testing. We've included the performance and features you need every day, and priced it to let you equip every bench in your shop or classroom. Standard features include a 1 ppm time base, 90 set-up memories, and an RS-232 interface that supports polled readings plus download and upload of all setup memories. At 12" x 6" x 12" and 11 lbs., it is suitable for mobile use as a service tool or local oscillator.

Accurate and Stable

Frequency synthesis is referenced to an internal 0.1 ppm 50 MHz time base. This timebase is STANDARD equipment with the RSG1000B!

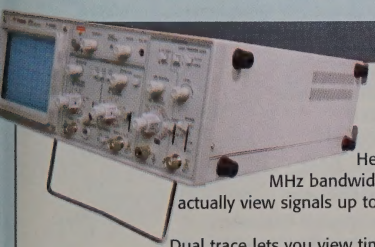
Easy to Use

The display is a bright blue VFD you can read from across the room, and displays all operating parameters. A numeric membrane keypad enables direct entry of all values. All functions are accessible without using a "shift" or second function key for real ease of use. We have also incorporated a "smart knob" which has analog feel, but is intelligently enabled when entering or changing parameters in any field.

Cost Effective!

We encourage you to compare the RSG1000B to any of the "other guys". Look real close and compare your needs and performance to the dollars you will spend. You'll see immediately that the RSG1000B offers the best cost-performance value available today. As one of our satisfied customers stated, "With the RSG1000B I get 90% of the performance of a $20,000 RF generator for 10% of the price; it's really a no brainer".

RSG1000B **RF Signal Generator, 100 KHz - 1,100 MHz, 0.1ppm Timebase** **$1,995.00**



Wired & Tested

20 MHz Dual Trace Oscilloscope

- ✔ 20 MHz dual trace
- ✔ 5 mV sensitivity
- ✔ Triggered sweep
- ✔ 6" high brightness CRT
- ✔ High performance, low cost!

Solid Performance... Budget Price!

Here's a real deal on a good dual trace scope. The 20 MHz bandwidth is adequate for most needs and since you can actually view signals up to 50 MHz, you'll find a real cost savings over a 50 MHz scope!

Dual trace lets you view timing and input/output signals on the same screen for fast analysis, and the high sensitivity of 5 mV/div captures small signals that can slip by. Rock solid triggering is really appreciated when looking at slow rep rate signals. Included are two high quality hook-on scope probes that are worth $60 by themselves! You'll find that the AAS1 is a great scope at a super price. The AAS1 scope features a manufacturers one year warranty!

AAS1 **20 MHz Dual Trace Oscilloscope, Factory Assembled & Tested** **$399.95**

Wired & Tested KIT

DDS Audio Signal Generator

Lab Quality DDS Technology!

- ✔ 0.1 Hz to 50 KHz with 0.1 Hz resolution
- ✔ Bright 5 digit display with direct keypad frequency entry
- ✔ Frequency continuously variable using rotary dial or up/down step keys
- ✔ Two channels with memory for easy frequency hopping
- ✔ Sine or Square wave output

In the past, generators of this capability were priced in the thousands of dollars, but new DDS (Direct Digital Synthesis) technology combined with the latest microprocessor control brings the cost down to the hobbyist range. The DDS Audio Signal Generator will generate signals from 0.1 Hz all the way up to 50 KHz. Both square and low distortion sine waves are available. An easy-to-read six digit LED display and direct keyboard entry allows error-free entry of desired frequency. DDS technology means that all frequencies are digitally accurate and referenced to the stable, master crystal reference oscillator. Entered frequencies may be adjusted up or down in precise step increments using the step up/down keys or the large tuning knob. Output level is continuously adjustable from 0 to 1 volt peak-to-peak. The rugged and handsome sealed membrane keyboard is immune to most solvents and resists demanding shop usage and soiling. A quick wipe with some Windex™, and your DDS Audio Signal Generator looks good as new. A good audio generator is invaluable on any bench, so retire that jury-rigged, tired old generator you're making do with and experience the pleasure of using a new DDS Audio Signal Generator. 12VAC wall adapter included. Available fully wired and tested or in money saving kit form. Case size: 9 5/8"W x 3 3/4"H x 6"D.

SG550	**DDS Audio Signal Generator Kit**	**$169.95**
SG550WT	**Factory Assembled & Tested SG550**	**$269.95**

SINAD Meter

Wired & Tested

- ✔ Make reliable sensitivity checks on pagers, radios and other receivers - the first time, every time.
- ✔ Just connect it to a speaker or audio point and you're done.

Align That Receiver... QUICK!

Here's a sinad meter that's dependable, easy-to-use and priced right - just like our proven and trusted COM3 Communications Service Monitor. And, this hard working unit has been designed with the latest in digital technology, so there's no drift, tuned circuits or touchy adjustments. Precise operation is assured through the use of crystal controlled filters and monolithic AGC circuitry with over 50 dB of dynamic range. Our wide range input allows solid readings, from the speaker leads all the way to that deep-down hidden discriminator test point. And, our exclusive 'Level OK' LED tells you when the signal is locked for dependable readings. It's a no-brainer using the SM1, just connect it to the speaker - or any audio point, and you're done, plus our manual explains sinad measurements so you can be an expert in minutes! Now anyone can make reliable sensitivity checks on all receivers, pagers, and radios the easy SM1 way. 12 VAC wall adapter included. Case size 9 5/8"W x 3 3/4"H x 6"D.

SM1WT	**Factory Assembled & Tested SM1 Sinad Meter**	**$99.95**

Wired & Tested

RF Millivoltmeter

Meter The Weakest RF Signals!

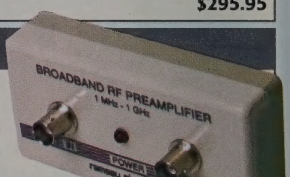
- ✔ Wideband frequency response - 20 KHz to 1500 MHz!
- ✔ RF level sensing from 300 microvolts to 0.3 volts
- ✔ High impedance input to minimize test circuit loading for superior performance

Looking for the sensitivity and accuracy of a top notch millivoltmeter without giving-up two week's profit? Then look no further, the Ramsey MVM1 is designed with all the accuracy and sensitivity of units costing hundreds more, in an easy-to-use and durable package. Even the probe of the MVM1 is designed to be rugged, and sports a quick release, easy to replace, BNC adapter tip. No more broken or intermittent tips that cause measurement error. Now you can test everything from transmitter output power (with proper load) to the most sensitive receiver circuits, all with one meter. The MVM1 has six direct reading ranges (in convenient 10 dB steps) calibrated in both true RMS and dBm to allow for superb accuracy. Specific attention to circuit design and layout allows the MVM1 to exhibit exceptionally flat frequency response which provides measurements you can rely on. The large, easy-to-read analog meter provides the best display for peaking gain stages or probing transmission paths while looking for faulty components. Now every test bench from pager repair to research and development labs can afford a top notch RF Millivoltmeter...the MVM1!

MVM1	**RF Millivoltmeter, Factory Assembled & Tested**	**$295.95**

Broadband Preamp

Wired & Tested



- ✔ Broadband...from 1 MHz to 1000 MHz, usable to 2000 MHz!
- ✔ Low noise figure, < 2.5dB
- ✔ Improves AM, FM, VHF TV, UHF TV, and HF reception. 50 – 75 ohm imp.
- ✔ Over 25 dB Gain with up to 100 mW of power output!

Increase Sensitivity Of Receivers & Test Equipment!

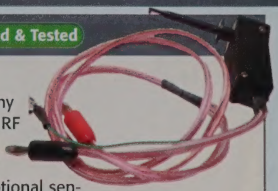
Ever wish you could "perk-up" your counter or scanner to read weak signals? Or how about boosting that cable TV run to drive sets throughout the house or maybe preamping that TV antenna to bring in that blacked out football game? The PR2 broadband preamp is the answer to all these needs as well as many others. You can use the PR2 anywhere a high gain, low noise amp is called for; digging out those weak shortwave signals or putting new life into that scanner radio – especially at 800 MHz. Since the PR2 has such a high compression point of almost 100 milliwatts, you can even use it to boost the power of small, micro transmitters! Newly designed microwave MMIC chips from NEC Japan enable the PR2 to have gain up to 2 GHz although we only spec the PR2 to 1 GHz (believe it or not the connector lead length is the limiting factor!). Customers tell us that the PR2 outperforms professional lab units by the "Big Boys" that go for hundreds of dollars more. The PR2 is the ideal general purpose RF amp that you'll wonder how you got along without. Runs on 12 VAC/DC or 120 VAC using the included wall adapter. Size: 4" x 2" x 1".

PR2	**Broadband Preamp, Factory Assembled & Tested**	**$59.95**

Sniff-It RF Detector Probe

Wired & Tested

- ✔ Use with any DMM or VOM to measure RF!
- ✔ Low cost RF measurement
- ✔ Can also be used as a field strength meter!



Measure RF With A VOM!

The RF1 is a very sensitive RF detector probe that connects to any digital multimeter and provides a DC voltage output from weak RF signals. This allows very easy tracing of low level RF signals that a counter can not pick up. Wide frequency coverage of 100 KHz to over 1000 MHz lets you track down most any problem in transmitter chains, receiver stages, or even complex PLLs. Works great as a sensitive field strength meter, too. Uses exotic low barrier microwave detector diodes to give exceptional sensitivity which can see signals down to microwatt levels! A great low cost way of checking for RF. Fully assembled and tested, and includes standard bananna plugs for use with any standard VOM, DMM or voltmeter. If you need to measure RF, and don't want to spend big bucks, here you go!!

RF1	**RF Sniff-It Probe, Assembled & Tested**	**$22.95**

Wireless LAN Adapter Cable

Wired & Tested

- ✔ Used with many 2.4 GHz wireless LAN access points
- ✔ Allows external antenna connections
- ✔ Low loss cable and connectors

The Mystery Connector!

The most common connector on consumer 2.4 GHz Wireless Access Point (802.11b) products is referred to as a RP-TNC connector. This is common with Linksys, Cisco, and others. Our ISMC1 pigtail plugs directly into these devices to give you a standard Type-N male for your cable connection. Ideal for connecting external antennas to these devices. *NOTE: Not all devices use this connector, and not all devices have an external connector. Check your device BEFORE ordering this pigtail!*

ISMC1	**RP-TNC/Type-N Male 18" Low Loss Pigtail Cable**	**$29.95**

Power Cost Controller

Wired & Tested

- ✔ Cost monitoring and cost forecasting
- ✔ Just plug it in and you're all set!
- ✔ Stores data

Efficient & Easy Monitoring Of Electrical Consumption!

SPECIFICATIONS:	
Supply voltage:	120V ~ (60Hz)
Absolute max. loading rating:	1800W (15A)
Battery:	LR44, 1.5V Button Cell (included)
Accuracy:	+/- 2W or +/- 2% whichever is greater

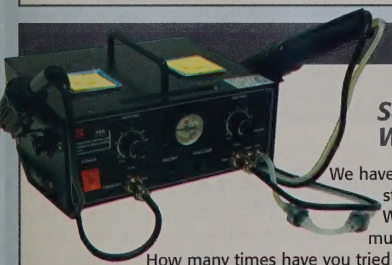
How many times have you wondered exactly how much does that cost to keep it running? Well now you can easily find out! Plug the PCC120 into any standard 110VAC outlet, plug the device or devices into it, and instantaneously measure its consumption! It doesn't get much easier than that! Monitor energy usage and view cost of operation of any device. Check your refrigerator efficiency, compare incandescent vs fluorescent bulbs, and much more. Enter in energy costs, and it will forecast operational cost on a daily, monthly and yearly basis! Displays power usage, current power consumption in watts, maximum load power in max watts, total energy consumption in total kilowatt hour, calculates cost of operation based on actual usage and kilowatt/hour cost, forecasts daily, monthly and yearly costs, and calculates the cumulative costs since startup or reset. An internal button cell powers the unit and stores data, making non-dependent on AC power. *(I put one of these on the secretary's little space heater under her desk, and was amazed how much it was costing me...now she's got cold feet!)*

PCC120	**Power Cost Controller, Factory Assembled & Tested**	**$39.95**

Soldering/Desoldering Station

Wired & Tested

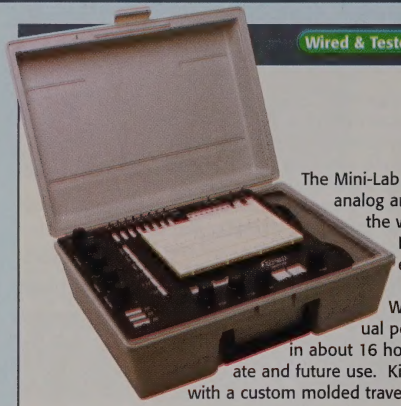
- ✔ Tip temperature accurated to within ± 3 °C (6°F)
- ✔ Zero Voltage switching and fully grounded design makes this unit safe for electro-sensitive devices.
- ✔ Adjustable temperature w/o changing tips.
- ✔ The pump is controlled by a finger actuated, thyristor switching circuit located on the desoldering handle.



NO CLUTTER! Solder & DeSolder With ONE Station!

We have checked out a lot of desoldering stations, but this one is a winner! With newer miniature components, multipin devices, and surface mount devices, the days of a soldering iron and a roll of solder wick are over. How many times have you tried to remove that DIP package, only to lift up a trace on the PC board, or damage the device? Now desoldering's a breeze! We looked for a quality desoldering station that would be perfect for our customers. It needed to be foolproof and yet affordable. And at the same time had to provide desoldering AND temperature controlled soldering in one station. This is it! The 988 features precise temperature control for both soldering and desoldering. This assures a proper temperature to eliminate board and component damage. The vacuum pump is finger actuated using thyrister switching located on the desoldering handle, PLUS it is literally self-cleaning! The pump will continue to suck for 1-2 seconds after the switch is released to clear the tubes and to prevent clogging of the tip! The energy saver powers down after 15 minutes of idling to save power and to extend tip life. Standby is indicated by a pause LED. Includes one 98804 solder tip and one 98802 desoldering tip. A wide assortment of optional soldering and desoldering tips is available. If you're looking for a professional soldering and desoldering station at a great price, the 988 is for you.

988	**Professional Temperature Controlled Soldering/Desoldering Station**	**$389.95**
98801	**Desolder Tip, .040"/1mm**	**$8.95**
98802	**Desolder Tip, .048"/1.2mm**	**$8.95**
98803	**Desolder Tip, .060"/1.5mm**	**$8.95**
98804	**Solder Tip, Conical, 1/32"/0.8mm**	**$4.95**
98805	**Solder Tip, Chisel, 1/64"/0.4mm**	**$4.95**
98806	**Solder Tip, Chisel, 1/16"/1.6mm**	**$4.95**
98807	**Solder Tip, Knife Blade, 45 Degree, 5mm**	**$4.95**



Wired & Tested KIT

Mini-Lab 200

- ✔ Function generator, clock output, power supplies, level switches, pulsers, pots, LED's, and a large breadboarding area ALL IN ONE!
- ✔ Available factory assembled and tested or in a "learn as you build" kit!
- ✔ Custom molded case included!

The Mini-Lab 200 is a complete system for building and testing prototype analog and digital circuits. The popular Mini-Lab is in use throughout the world in hundreds of colleges, universities, tech schools and R&D labs - and for good reason - it is an exceptional piece of equipment at an amazing price!

When purchased in kit form, the easy to follow assembly manual permits the student to learn proper assembly techniques and in about 16 hours have a professional piece of test equipment for immediate and future use. Kit or factory assembled and tested, the Mini-Lab 200 comes with a custom molded travel case to keep your lab station looking like new for years to come.

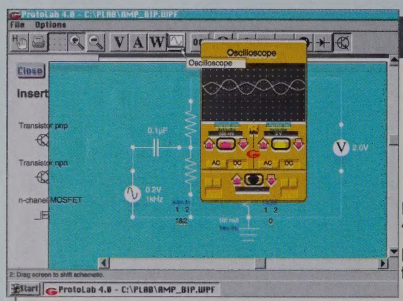
WBU206

WBU202

WJW70

Features BREADBOARDING AREA with 160 tie points, 1K &100K POTENTIOMETERS, 8 buffered LED's, 2 TTL buffered and debounced PULSERS, square-sine-triangle FUNCTION GENERATOR, open collector CLOCK OUTPUT, 8 unbuffered output LEVEL SWITCHES, and Fixed +5 Volts (±0.2V) 1.5 Amps; ±12Volts (±0.6V)1.5 Amps; Variable 0 to ± 18 Volts 1.5 Amps; 30VAC CT POWER SUPPLIES.

ML200	**Mini-Lab 200 Kit with Custom Molded Case**	**$155.95**
ML200WT	**Mini-Lab 200 Factory Assembled & Tested, with Custom Molded Case**	**$225.95**
WBU206	**Breadboard, 3 Terminal Strips, 5 Bus Strips, 2390 Tie Points, 4 Binding Posts, 6.9" x 5.8"**	**$23.95**
WB202	**Breadboard, 1 Terminal Strip, 2 Bus Strips, 830 Tie Points, 6.5" x 2.1"**	**$6.95**
WJW70	**Jumper Wire Kit, 140 Pieces**	**$4.95**



Protolab 4.0 Circuit & Test Simulator for PC

Create And Test That Circuit... Without Building It!

- ✔ Simulate a circuit BEFORE building it!
- ✔ Professional features, hobbyist price
- ✔ Simple computer interface and operation
- ✔ Loads of sample circuits to simulate
- ✔ Great learning tool for budding engineers

Easy to use PC interface. Easily create AC & DC circuits moments after installation with ProtoLab's easy "click and drag" component placement and on-line help. You choose from a complete list of active and passive components, all of which are included. Once built, you can test and analyze your circuit with five virtual instruments also included. Requires PC (Not Mac!), Win3.1 or higher.

ProtoLab 4.0 is designed to work as a simulated prototyping lab. Insert components on a grid, similar to a breadboard, then test the circuit using the appropriate test instrument from the tool bar. ProtoLab's prototyping grid area is extensive and can handle a vast array of active and passive components. Protolab's predesigned circuit library includes: MOSFET & transistor amplifiers, bridges, sinewave oscillators, squarewave oscillators, phase shift oscillators, current mirrors, integrators, differentiators, transistor & MOSFET monostables, LC oscillators, tuned collector amplifiers, LC tuned circuits, power supplies, and voltage stabilizers.

Components include wires, junctions, grounds, resistors, capacitors, inductors, DC voltage sources, AC voltage sources, DC current sources, AC current sources, diodes, zener diodes, transistors, and MOSFETs. Including: Voltmeter, ammeter, wattmeter, oscilloscope, and ohmmeter.

PLAB4 **ProtoLab 4.0 Software** **$49.95**

0-30VDC Adjustable Power Supply

Wired & Tested

- ✔ 0 to 30VDC variable output
- ✔ 5A output

Input: 110VAC, 2.21A at rated output
Output: 0-30VDC, 5A, adjustable
Ripple: 50 mV P/P max at rated output
Load Regulation: ±2%
Adjustment: Fine and coarse adjustments
Outputs: Positive, negative and ground banana jacks

The perfect power supply for your bench. Features a heavy duty metal case and continuous duty heatsinks. Built-in short circuit and thermal protection with "auto reset" for the most reliable operation, and to make it virtually impossible to damage the power supply! If you're looking for a great power supply, here it is! Measures 11.5" x 9" x 4.75". *(Chris, our engineer wants one of these! I'd rather have an atomic watch myself!)*

PS32LAB **Lab Power Supply, 0-30VDC, 5A Adjustable** **$99.95**

Technician Tool Kit

✔ 43 pieces!
✔ Quality tools at a great price!

Looking for a nice technical tool kit, but don't want to spend a fortune? Here it is!

Perfect for your bench, or your tool box. Includes all the hand tools you will need, plus the basic soldering tools. A great starter tool kit.

- Desolder Pump
- 25W Solder Iron
- Long Nose Pliers
- Diagonal Cutters
- Adjustable Wrench
- Clamping Tweezers
- Test Light Screwdriver
- Solder Stand/Sponge
- Heat Sink
- 3 Phillips Drivers
- 3 Slotted Drivers
- 3 Pc. Solder Aid Kit
- 9 Pc. Socket Set
- Universal Handle with 5 Slotted Bits, 3 Phillips Bits, 3 Hex Bits & 2 Torx Bits
- Handy Zipper Carrying Case

TK405 Technician's Tool Kit $47.95

High Power LED Key Lights

✔ Lifetime warranty
✔ Super bright!
✔ Replaceable batteries

Always With Your Keys!

The ultimate in convenience and safety! These tiny bright LED lights are smaller than a quarter, but brighter than most full size flashlights! Small enough for your key chain, these lights are great for dark parking lots. With a lifetime warranty and replaceable batteries, how can you go wrong?

You will find the super bright blue model easily lights up an entire room, and blinds my boss when I flash it in his face! Also not a bad idea for those dark parking lots! Red provides a crisp spotlight effect, and white provides bright, fully diffused illumination. These make great gifts, and the price is just as amazing as their brightness!

P1	**Ultra Bright Keychain Light, White**	**$9.95**
P2	**Ultra Bright Keychain Light, Green**	**$9.95**
P3	**Ultra Bright Keychain Light, Red**	**$9.95**
P4	**Ultra Bright Keychain Light, Blue**	**$9.95**

Helping Hand & Magnifier

✔ Built-in magnifier
✔ Alligator clip holders

So you're trying to hold that small board, while holding the transistor you're trying to solder in, and holding the soldering iron, and holding the solder. Wait a minute, that's 4 hands! Not a problem! Just clip the board, junction or component you're working on onto the bench holder, swivel it wherever you want it, and go to work! What, you can't see? Even has a built-in magnifier!

HH3 Helping Hand with Magnifier $8.95

Jeweler's Eye Loupes

✔ Twin set, 10x and 5x power
✔ See up close, really close!

You've seen jewelers pop these things in their eyes, to check out your diamond ring. That's how they found out it was Cubic Zirconia from the Shopping Channel! Now you can have a set of 10x and 5x loupes to check out your subminiature parts and components or that ring or watch you just received to see if it's fake!

ELM2 Jeweler's Eye Loupes, Pair $2.95

Pro Soldering Station

✔ Variable temperature controlled!
✔ Made in the US by Weller!

Here's the ideal soldering station for building your Ramsey kit - and for your bench! Adjustable temperature lets you match the iron to the work for fast reliable connections and what a pleasure knowing you'll never overheat a small circuit trace. If you've never used a good quality soldering station, you owe it to yourself to see just what a pleasure it is to use pro equipment! This is the famous American Made, Weller brand, a name known for years as America's best!

WLC100	**Weller Soldering Station**	**$49.95**
ST2	**3/32" Screwdriver Tip**	**$6.95**
ST3	**1/8" Screwdriver Tip**	**$6.95**
ST4	**3/16" Screwdriver Tip**	**$6.95**
ST6	**1/32" SMT Screwdriver Tip**	**$6.95**

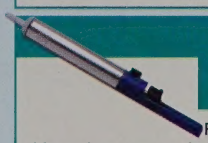
Technician's Solder

✔ Electronics 60/40 electronic solder
✔ .032" diameter, 1 pound spool

Whether it's for building your new kit, or just for your bench, this is the perfect solder. Don't destroy your kit investment by using the wrong solder, or solder with low quality flux core. This solder is made exclusively for electronic applications, board soldering, SMT and more. It is 60/40 Tin/Lead and 100% non-corrosive. One pound spool.

RTS12 60/40 Electronic Solder $9.95

Solder Sucker



✔ Eliminate PC board damage!
✔ Cleans out eyelets and holes with ease!

For 5 bucks, this will probably be the most valuable tool you've ever bought! Even the most experienced solderer has problems with removing components from PC boards without one! One hand loading, and one hand operation. Just heat up the joint, place the special tip over the joint, and squeeze the trigger. Solder is sucked right from the board and even plated-through holes! It's that easy!

SS01 Solder Sucker $4.95

Panavise Bench Vise

✔ Holds PC boards at any angle!
✔ Heavy duty base

Trying to solder and unsolder tiny components on small boards can be a challenge for even the most experienced. Here's a gem of a handy vise that is very sturdy and has the flexibility to hold boards at virtually any angle. Includes 2 7/8" jaws and a large base/parts tray with lockable flex joints.

RTS13 Panavise Bench Vise $39.95

Optivisor Magnifier

✔ See those parts with ease!
✔ Professional Quality

Probably the handiest helper you can have for working with small electronic parts. Working with today's subminiature components, it's really easy to make a mistake. The Optivisor is your solution! One size adjustable headband tightens around your head. When you need to see a closeup view, simply flip the visor down. When done, flip it back up. It's that easy! Fits over your standard glasses. Same quality as the ones you see your doctor use!

RTS26 Optivisor Magnifier Headband $29.95

Electronics is FUN!

AM/FM SUPER SALE!

Save $$$ NOW!

SAVE UP TO $30!
FM100B Super-Pro Synthesized FM Stereo Broadcaster
Put the "Professional" sound in your station!
See Page 6

SAVE $50!
PA100 Professional 40 Watt Power Amplifier
Ultra Reliable Microprocessor Based Amplifier
See Page 6

SAVE $20!
FM25B Synthesized FM Stereo Transmitter
Professional Features At A Hobby Price!
See Page 7

SAVE $5!
FM10A Tunable FM Stereo Transmiter
Get Started For Less Than $35!
See Page 7

SAVE $10!
AM25 Professional Synthesized AM Transmitter
The Rock Stable AM Radio Transmitter
See Page 7

SAVE $5!
AM1 Tunable AM Radio Transmitter
The #1 School & Scouting Project For Years!
See Page 7

It's Time To SAVE Big Bucks At RAMSEY!

The Exciting World of Electronics

Kits Are FUN!

1-800-446-2295

AM-FM BROADCASTERS, CAMERAS, TRANSMITTERS
HOBBY KITS, AMATEUR RADIO, TOOLS...AND MORE

ramseykits.com

✦ Build It!
✦ Learn It!
✦ Achieve It!
✦ Enjoy It!

RAMSEY

RAMSEY ELECTRONICS INC.
793 Canning Parkway
Victor, New York 14564
Phone (585) 924-4560

Make sure to include your key code when ordering!

The Ramsey SUPER SALE !! Save Big Bucks On Your Favorite Products!